AFRICA COFAN NOUS USE CHANGE حestorative use of resources reduce carbon elvin. S' ONS TO CREATE INNOVATION VERDANT PARTNERSHIP DEMAND FLEXILILITY A CLEAN, PROSPEROUS, FUEL SAVING ERO CARBON CLIMATE DRIVING INTEGRATION MICROGRID DEEP RETROFIT EI GRID EFECTION SUPER AND SECURE, EFFICIENT BUILDINGS EN N SOUTH AFRIC OFFICTION OF CO2 EMISSIONS NATIONAL SOLU JTRAL COMPELLING LOW-CARBON BUSINESS RENEW MONTSERRAT CREATING BANKABLE COMMITMEN1 ARTNERS STAKEHOLDERS TECHNICAL DIAGNOSTIC ENERGY-SA CHANGE RAPID RESPONSE BUSINESSES ABUNDANCE CONSTRUCTIONS SHIFTING SOLAR RENEWABLE SHINE SOLUTIONS STATEMENT FOR MINES DISRUPTIVE TECHNOLOGIES THE SOLUTIONS STATEMENT OF THE SOLUTIONS STATEMENT. ED FUTURE EN 2RGY / PID FUTURE SOLUTI NVENTING FIRE APOLITICAL INTERNATIC DIP



CONTENTS



Rocky Mountain Institute advances market-based solutions that transform global energy use. Working together with business, philanthropists, communities, institutions, and entrepreneurs to shift to efficiency and renewables, we are creating a clean, prosperous, and secure low-carbon future.

CREATING OUR CLEAN ENERGY FUTURE

Thanks to your support, we strive each day to attain all that the energy revolution makes possible: climate protection, clean air and water, reduced poverty, economic growth, and better security for our families and loved ones.

Rocky Mountain Institute (RMI) is a nonprofit organization that drives the global energy transition from fossil fuels to efficiency and renewables using market-based solutions. We know that profit does not have to be pitted against our planet, and that this transition can be made economically and made now, regardless of the policy environment. We are nonpartisan and independent, and we work with existing technology to improve everything connected to our energy system—from how businesses and governments produce and use power to how we live and work and thus improve people's lives. We boldly tackle the toughest long-term problems—challenges often ignored by those held to short-term results.

Building on our decades of successful market-based clean energy solutions, together with bold partners and generous donors like you, RMI works to lead the fight against climate change.

We could not exist without the generous support of families like the one pictured here with Amory Lovins, which has been giving to RMI for three generations.

enerous red here n giving erations. 35 years of energy expertise and impact

160 Full-Time Staff: Best-in-class experts from business and industry

\$35 Million Budget: 80% of revenue from donations, 20% from collaboration

Board with 22 Trustees: Highly skilled trustees committed to increased impact

> 5 Offices: Basalt & Boulder, CO; New York City; Washington, D.C.; Beijing, China

2

ABOUT US

EMPOWERING YOU TO CONFRONT THE CLIMATE CRISIS

Your business, your family, and your community are facing the impacts and risk resulting from our costly energy system each day. The severity of climate change grows clearer each year, yet global demand for fossil fuel stays strong. Low-income families and businesses struggle to pay high electricity bills. Policy and advocacy can't succeed on their own. That is why we're transforming industries and helping nations to develop sustainably—to radically reduce carbon emissions, improve health and environmental quality, create jobs, and increase security and energy-system resilience.

When markets lead, change happens at massive scale, and climate-friendly policies and politics follow. But sometimes even the most powerful markets need help shifting to new ways of doing business. Many cost-effective, low-carbon technologies exist today that can scale faster, and RMI is a trusted partner to make that happen in boardrooms and on factory floors around the world.

Supporters like you trust us because RMI applies rigorous research, whole-systems expertise, and entrepreneurial approaches to help markets take advantage of breakthrough energy innovations. We embed ourselves deeply in industries to find pain points, then—with influential partners—test and refine innovative business models and ideas.

By collaborating with diverse partners, we spread solutions rapidly and drive impact on a global scale—which is the scale of the climate challenge. We do this not just to change single companies, but to transform entire industries to work better for you: using less energy, from cleaner sources, in smarter ways. Together we're shaping a better future—one where everyone in the world breathes clean air and has clean power, and one without runaway climate change. Consider these facts:



OUR WORK AT A GLANCE

Rocky Mountain Institute is strong and growing. In recent years, we have increased our staff, budget, and international reach to collaborate more widely and scale impact more quickly. In this graphic, you can see the programs and initiatives that we are engaged in, with more on the way.



In 2014, Carbon War Room, a like-minded nonprofit working with entrepreneurs, financiers, and industries, merged with and now operates as part of RMI.

We continue to use the Carbon War Room brand in many markets given its exceptional reputation. The merged organization is stronger, nimbler, and more efficient—just the sort of wholesystems design improvement we bring to bear on energy challenges to create the future you want, and our future generations deserve.



TRANSFORMING TRANSPORTATION

The wonders of the modern transportation system—our cars, trucks, ships, and planes—move us and our goods around the world at very little cost in time and money. But that system's carbon emissions impose a cost we can't afford to pay any longer: shipping and aviation each emit about as much carbon as Germany's entire economy. In the U.S., fully 20 percent of carbon emissions come from our cars, while freight-hauling big rigs are even more carbon intensive than cars are.

That's why we're transforming transportation to use significantly less oil and emit fewer emissions. We achieve this by driving industry demand for more efficient shipping, reducing carbon emissions from trucking fleets by improving confidence in fuelsaving technologies, collaborating with cities such as Austin on mobility transformation programs, and forging innovative partnerships with airports to deploy sustainable aviation fuels.

> Long-haul truckers (near right) know that saving fuel means saving money; it's good for profits and the planet. Scenes like this (far right) show a mobility system ripe for transformation.

GOALS

Drive a 25% improvement in the fuel efficiency and carbon footprint of global commercial shipping fleets by 2025

Get 30% of large fleets and small owner-operators to demand fuel-efficient trucks by 2018

> Accelerate adoption of electrified, autonomous mobility services in 4–6 U.S. cities by 2020, and eventually save \$1 trillion annually

Help 10% of the North American and European commercial aviation jet fuel market switch to sustainable aviation fuel by 2025

8



Over 2 billion tons of cargo moved last year on efficient ships selected with the GHG Emissions Rating we developed with RightShip. We're also pioneering unique contractual arrangements that share the risk and the profits of financing efficiency retrofits between shipowners and charterers. We launched the industry's first free-to-access operational efficiency platform, BetterFleet, which compares the energy efficiency of vessels and reveals new opportunities to reduce both emissions and costs.

We give the trucking industry the information it needs to make business decisions that save fuel and money. We've released 15 Confidence Reports that independently evaluated 54 fuel efficiency technologies, in partnership with the North American Council for Freight Efficiency, an RMI spin-off. Every major trucking publication covered every report last year, and fuel economy for big rigs increased for the eighth year in a row.

RMI is partnering with the City of Austin and the City of Denver to transform their mobility futures. Together, we're working to support the deployment of autonomous vehicles, innovative commuting solutions, and electric vehicle fleets by piloting new mobility programs and business models. We're also helping Austin with city planning and mobility-oriented development. We helped launch a pioneering commuting solution between offices and mass transit for people who work at major employers, including Whole Foods. We're electrifying on-demand fleets and taxis and piloting autonomous vehicles, helping Austin become an epicenter for the commercialization and adoption of "new mobility."

Aviation was left out of the Paris Agreement, but the industry contributes as much carbon as a major industrialized nation and its growing emissions are outpacing efficiency gains—by 2050 it could account for at least 10 percent of global emissions. To address this challenge we are accelerating the adoption of sustainable aviation jet fuel. RMI equips airports to act as change agents by leveraging new financing sources and stimulating biofuel supply.

Cleaner fuel for jets (top left), more efficient technologies for ships like this propeller (top right), and fleets of electric vehicles (bottom) are just some of the ways RMI works to decarbonize transportation.

EMPOWERING CLEAN ENERGY GLOBALLY

The people of the developing world must have energy, but the fossil-based electricity system developed a century ago can't simply be extended to cover the 1.2 billion people who lack electricity without warming the planet uncontrollably. Fortunately, modern advancements allow new development pathways that promise energy access for all-while minimizing carbon emissions. Economically viable paths to clean energy help developing countries reduce pollution and peak carbon emissions early—and improve the health of their citizens.

RMI is moving out into the world with new determination and focus. We're working with top government officials and local partners to accelerate the transition of Caribbean island economies to locally sourced, renewable energy, and to create a blueprint for other isolated economies. We're partnering with leading governments and other stakeholders to improve electricity access and drive economic development in sub-Saharan Africa for people who are underserved or have no access to electricity, shifting the paradigm away from a high dependence on centralized, fossilfueled grids.

Clean energy sources like small- and microscale solar are well suited to improve health, electricity access, and economic growth in the developing world.

GOALS

Help China peak carbon emissions by 2030, and enable leading cities to peak sooner

Support China as it reduces its carbon intensity 60% by 2030

> Help 6 African countries expand electricity access with clean technologies by 2020

Accelerate the transition to renewables in 10 Caribbean countries

Install 95 megawatts of renewables and leverage \$300 million in financing for island energy projects by 2020

13



Photo courtesy Joerg Boethling

In China, we partner with the government to help the nation profitably surpass its existing national energy and emissions targets, dramatically reduce its dependence on fossil fuels, and set a clear pathway for the developing world to follow. We're working with China to peak carbon emissions earlier and lower, especially in a network of pioneering cities.

Working with several partners over four years, RMI published *Reinventing Fire: China*, a road map to help China slash its carbon emissions and energy use by 2050, all at a net economic benefit of more than \$3 trillion. The research informed bilateral climate agreements between China and the U.S., and provided key insights to the energy authors of China's 13th Five-Year Plan. Now we're implementing the findings by collaborating at the highest levels of Chinese government and industry.

In sub-Saharan Africa, most of the population doesn't have access to electricity—which has massive effects on a person's health, well-being, and economic development—and those who do have access pay significantly for oftentimes unreliable service. We're working with African stakeholders to change things. RMI is collaborating with governments in Rwanda, Sierra Leone, and Uganda to dramatically increase electricity access and harness on- and off-grid solutions to power businesses and speed development.

Caribbean island residents spend, on average, 15–20 percent of their income on electricity, which is fueled by expensive imported diesel fuel. RMI is helping facilitate the switchover from diesel-generated electricity to renewable generation systems, which offer lower prices and freedom from the unpredictability that comes with fluctuating oil prices.

RMI is working with stakeholders in island nations (upper left) and sub-Saharan African nations (near left) to add clean, renewable supply to the energy mix, and collaborating with leading Chinese cities (lower left) to peak their carbon emissions early and low.

ROCKY MOUNTAIN INSTITUTE AROUND THE WORLD

Contraction of the second seco

Colombia

Belize

Anguilla

.

Grenada Saint Vincent and the Grenadines

Montserrat

Saint Lucia

Bahamas

Providencia

San Andrés

Turks and Caicos

Aruba

United Kingdom

Sierra Leone

Rwanda

South Africa

Netherlands

Offices Basalt, CO Boulder, CO New York, NY

Washington, D.C.

Bejing, China

Countries Where We're Working

India

Global Operations Shipping Aviation

16

Global Operations

Shipping

Aviation

DECARBONIZING ELECTRICITY SYSTEMS

Our electricity system isn't sustainable; it's on course to emit 40 percent more carbon by 2050 than today's already high levels, making it close to impossible to keep warming below 2 Celsius degrees. Fossil fuels generate two-thirds of electricity in the U.S., but better—and increasingly, cheaper—technologies exist today. We need to recreate an electricity system that's built not on fossil fuels, but on energy efficiency and renewable energy.

RMI is answering the call. We're helping transform the U.S. grid from one based on big central power plants that burn fossil fuels to a combination of centralized large-scale renewables and distributed solutions right in our communities, businesses, and homes that power the grid with clean electricity. 3–5 states committed to comprehensive regulatory and business model reform by 2020

Help corporations procure 60 gigawatts of renewable energy by 2030

Nearly double renewables capacity within the U.S. by 2025

Help community-scale solar reach its 30-gigawatt market potential

> Prove and scale on-site renewable energy at mining operations around the world

> > Increase access to clean energy by low-income households



RMI is advancing the markets for community-scale solar (far right) and utility-scale wind, among others, to make the electricity system cleaner, more equitable, and more reliable. GOALS





Through regulatory reform, RMI's electricity program is changing the rules and markets by which the electricity grid operates. We're shifting the way utilities have operated for over a century with evolving business models. And we're putting the customer at the heart of the equation, whether it be through residential rooftop solar and battery energy storage or through major corporate contracts for long-term renewable supply. Increasing access by low-income households and communities to energy efficiency and renewables, including community-scale solar, is another part of our focus on customers. We're also inspiring rapid innovation in disruptive technologies like resilient solar-plus-battery systems and helping scale up their adoption.

We need new approaches to renewable energy so that it is used efficiently—by advantaged and disadvantaged alike—as part of a clean, resilient, and affordable electricity system that produces less pollution and climate-altering CO_2 . RMI helps regulators, utilities, technology providers, and other system stakeholders, state by state and market by market, to transform the electricity system.

RMI is a catalyst. We're creating proofs that new utility business models supported by reformed regulatory structures can succeed, in collaboration with trailblazing states like New York. RMI's work is frequently referenced and considered in electricity system innovation; our research is currently cited in more than 80 dockets under review

by utility regulatory commissions. We're actively supporting leading-edge efforts around the country, including those in California, Hawaii, Minnesota, New York, and North Carolina.

Our Electricity Innovation Lab (e⁻Lab) is known for convening and problem solving with regulators, utilities, industry experts, and civil society and runs a boot camp for electricity system innovation, e⁻Lab Accelerator, which fosters groundbreaking energy-system solutions by bringing diverse teams together.

RMI works on the electricity system as a whole, integrating aspects like residential solar (top left), utility metering (far left), and 50-meter turbine blades (near left) for utility-scale wind farms.



The change is real. We're driving toward a tipping point over the next five years in the transformation of utility business models and regulation where clean distributed energy resources will become a core electricity-system resource and accelerate a broader sector transformation. And we're working to increase the pace at which electricity customers directly adopt renewables solutions.

To speed renewable energy procurement by corporations and other organizations outside the utility sector, RMI launched the Business Renewables Center (BRC) in 2015. By 2017, the BRC's members were collectively responsible for 94 percent of the 7.2 gigawatts of new renewable energy capacity signed by nonutility buyers in the U.S. And globally, we're helping the energy-intensive mining industry adopt renewables and get off diesel, reducing both carbon emissions and energy costs, starting in South Africa.

But our work isn't just about energy; it's about people. Close to 50 million Americans live at or below the federal poverty line. Low-income communities and households face the greatest barriers to the use of renewable energy but stand to benefit the most from its resilience and self-supply. RMI works to make clean energy more accessible to lower-income communities with innovative financing, projects, and development models created hand in hand with the communities themselves.

In addition to working at the customer and utility levels, we're also advancing solutions at the community scale, enhancing access and reducing costs for customers. RMI is fostering and standardizing community-scale solar (~1 megawatt systems) in Colorado, New Mexico, New York, North Carolina, and Texas. This approach marries economies of scale to the benefits of distributed energy resources, like local system efficiency.

RMI is known throughout the electricity system community for whole-systems expertise; we help to advance clean energy efforts at every scale and across the country.





CATALYZING EFFICIENT BUILDINGS

04

Our buildings consume a prodigious amount of energy—42 percent of the nation's primary energy and 72 percent of its electricity. They use more energy than every country in the world except China and the U.S. Slashing the energy appetite of the built environment is critical if we're to meet the climate challenge.

Our homes, businesses, schools, and neighborhoods can be healthier, more productive, and provide better value. That's why RMI, together with powerful partners such as real estate developers and investors, portfolio owners, and technology providers, is working to improve the health, comfort, and performance of our buildings.

We're driving the adoption of more efficient and net-zero carbon buildings, districts, and campuses. We are working to make energy-related investments more valuable for commercial building owners. We are also helping to unlock U.S. homeowner investments in energy efficiency and renewable energy to create better homes for our families, our pocketbooks, and the environment—preventing millions of tons of CO₂ emissions altogether.

Our own office in Basalt, Colorado, the RMI Innovation Center (pictured above), reached a new height in net-zero carbon buildings. It's a paragon of integrative and passive design, producing more electricity on site than it uses each year and advancing the markets for energy monitoring, generation, and storage, and for next-generation controls.

loto (above) courtesy Tim Griffith

25

GOALS

Prevent over 50 million

tons of CO, emissions

over 5 years

Improve the efficiency of over

4 billion ft² of space

THE CUTTING EDGE

RMI is constantly evolving as new technologies and new partnerships allow for rapid scaling of clean energy solutions. One of our newest programs tackles methane emissions because global concentrations of this powerful greenhouse gas are now growing faster in the atmosphere than at any other time in the past two decades. Science indicates that this surge in methane could threaten all efforts to limit warming to 2 Celsius degrees. That's why RMI recently partnered with the Environmental Defense Fund to radically reduce methane emissions from the oil and gas industries.

Also key to our forward-thinking transformative efforts is our programmatic finance work, led by savvy veterans in investment banking, international climate finance, and energy project finance. This cross-cutting body of work underpins the development and deployment of profitable technologies. Securing financing for innovations means overcoming risk aversion. RMI identifies barriers to financing sustainability-related investments and works with banks, development finance institutions, specialty finance companies, venture capital firms, private equity funds, and other capital providers so that these projects can access the necessary capital at the lowest possible cost.

Through the Office of the Chief Scientist, Amory Lovins advances the cutting edge of our work, as he has for 35 years. Amory is in regular contact with leaders all over the world, from the highest levels of the U.S. energy industry and military (where he advises the Chief of Naval Operations) to China's National Development and Reform Commission. His prescient and rigorous analysis continues to chart RMI's—and the energy system's—future.

By the time you read this brochure, our portfolio will likely have evolved as we continue to pursue the highest points of leverage. The cutting edge will have advanced, and new RMI programs will have emerged. Are you interested in tackling innovative energy challenges? We can't do our work without people like you, and we'd be honored to receive your support. to courtesy Tim Evanson (photo altered



Methane can occur naturally, like these bubbles from lake sediment trapped in ice. But industry is releasing this potent greenhouse gas at a scale that must be addressed if we're to avert catastrophic warming.

HOW YOU CAN MAKE A DIFFERENCE

Working toward a clean energy system transcends politics; it reduces the poverty gap, promotes better health, creates jobs, and improves security and resiliency. Whether you're working to solve energy and climate challenges or just passionate about the global energy transition, please join us in creating a clean, prosperous, and secure low-carbon future.

The future is truly in your hands. We invite you to join us because the time is now.

As an independent, entrepreneurial, nonpartisan nonprofit, we collaborate with diverse partners—business, government, academic, nonprofit, philanthropic, and military—to accelerate and scale solutions. We're bringing to the table the people and enterprises that can accelerate the energy transition and make a brighter energy future a reality.

Go online and find us at rmi.org, and get in touch with us to hear about how you can join the proven, market-based solutions of Rocky Mountain Institute. Everything RMI has accomplished in 35 years has been done with the help of bold philanthropic investors, visionary business leaders, and concerned global citizens like you. Please join us today. CONTRIBUTE TODAY
Visit rmi.org/donate

LEARN MORE
Visit rmi.org/about

www.rmi.org

About Rocky Mountain Institute

Rocky Mountain Institute (RMI)—an independent nonprofit founded in 1982—transforms global energy use to create a clean, prosperous, and secure low-carbon future. It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of marketbased solutions that cost-effectively shift from fossil fuels to efficiency and renewables. RMI has offices in Basalt and Boulder, Colorado; New York City; Washington, D.C.; and Beijing.

Contact Us

RMI Innovation Center 22830 Two Rivers Road Basalt, CO 81621 P: 970.927.3851

Photos courtesy of iStock.com unless otherwise noted.

This brochure is printed with vegetable-based inks on an elemental chlorinefree paper called Accent Opaque. This paper is FSC certified and acid free. 100% of the electricity used to manufacture the sheets was generated under alkaline (acid-free) conditions from Green-e certified renewable energy.