

Accelerating the pace of change.

RMI's vision of a clean energy future commits us to **THINK bigger, DO boldly, and SCALE globally.**

Charting the Course for Zero-Emission Shipping

As the maritime sector moves toward low- and zero-emissions fuels, significant fuel procurement and distribution changes are expected. In April, at Singapore Maritime Week, the Global Maritime Forum and RMI launched the *Oceans of Opportunity* report, highlighting ways for ports to become first movers in supplying ships with green methanol and ammonia fuels, crucial to meeting the International Maritime Organization's 2030 zero-emission fuel targets.

Plugging into Lower-Income Transportation Needs

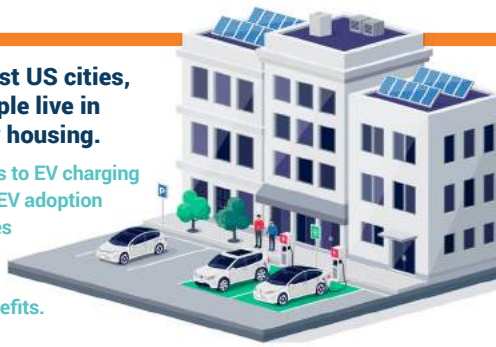
Despite unprecedented US federal funding for EV charging infrastructure, benefits are concentrated in areas with high EV ownership. In major US cities, 40 percent of people live in multifamily housing, where implementing charging is complex. RMI engaged with residents in Portland, Atlanta, and Phoenix to better understand their transportation needs. The resulting report offers scalable solutions and recommendations for policymakers, utilities, and stakeholders to prioritize equity in transportation electrification and charging infrastructure development.

Seeding the Winds of Change

RMI, in partnership with the Southeast Asia Clean Energy Facility (SEACEF), produced a study showing how offshore wind could enhance energy security, reduce costs, and lower emissions across Southeast Asia. The report identifies three high-potential offshore wind development zones in the Philippines, that could lead the race to develop the sector in the region.

In the largest US cities, 40% of people live in multifamily housing.

Lack of access to EV charging is a barrier to EV adoption in communities that stand to gain the most from their benefits.



Building a Trusted Voluntary Carbon Market

Voluntary Carbon Markets (VCM) provide a way for private parties to buy, sell, and invest in carbon credits tied to avoided, reduced, or removed greenhouse gas emissions. An effective VCM can finance vital climate action, such as scaling decarbonization technologies, protecting ecosystems, and enabling a just transition for local communities. Unfortunately, the VCM data landscape is complex and opaque – making it difficult to confidently comparison-shop for credits that will make a real impact. Enter RMI and Climate Collective's new *Buyer's Guide to Carbon Credit Data Quality*, which identifies key challenges in data quality, such as inconsistencies and lack of standardization, and shows buyers how to assess and select high-quality carbon credits. Alongside efforts by leading governing institutions, like the Voluntary Carbon Market Integrity Initiative and others, this guide allows buyers to use data to make carbon credit purchases that align with their sustainability goals.

Revealing the Hidden Harm of Gas Flaring

Gas flaring, or burning excess natural gas during oil extraction, releases pollutants that harm nearby communities, particularly marginalized ones. RMI's Flaring Environmental Justice Risk Map identifies these at-risk areas and highlights the health impacts of flaring, such as respiratory issues and preterm births. The map aims to guide decision-makers in protecting vulnerable populations and steer investors away from high-impact flaring operations. This tool is crucial for promoting healthier and more equitable communities by mitigating the adverse effects of gas flaring. Future updates to the map may enhance its utility in addressing global environmental justice risks by including flaring at refineries and transport facilities as well as international data.



Powering Nigeria, Sustainably

Utility-enabled distributed energy resources (DERs) are crucial to increasing electricity access in Nigeria, where over 40 percent of people lack access. In early 2024, RMI collaborated with key stakeholders to create a roadmap to deploy over 20 GW of DERs. This initiative represents a \$19 billion investment opportunity and could reduce Nigeria's emissions by 33 million metric tons of greenhouse gas emissions annually, an 8 percent emissions reduction compared to 2022.

The roadmap's actionable recommendations for utilities, developers, government agencies, and development partners include preparing robust project pipelines, embracing competitive procurement for cost-effective delivery, fostering collaboration between utilities and developers, and establishing dedicated DER teams at utilities.

Newly commissioned utility-enabled DER projects are evidence that there's a unique window of opportunity to reap the benefits of this approach.



When complete, the Wuse Market solar DER in Abuja, Nigeria, will power 2,500 shops, eliminating the need for fossil backup generators.

“ Using RMI's roadmap, we've been able to analyze our priorities, starting with securing management support for executing DER projects. We have also established a dedicated team with the competency and capacity to execute these projects.

—OBIANUJU UKWUEZE, Head of Business Development at Ikeja Electric, Nigeria's largest power distribution company

Turning Down the Heat in Really Cool Ways

After a year of deadly and costly high temperatures, July 2024 brought on the hottest days humans have ever measured. The need for efficient cooling has never been more critical. RMI is working on innovative and sustainable cooling solutions that reduce energy consumption, lower greenhouse gas emissions, and enhance public health and safety by integrating technological advancements, policy support, and public awareness.

Really Cool Air Conditioning

With the world warming at an unprecedented rate, the demand for cooling is expected to put an additional 5.6 billion air conditioners into homes by 2050. Cooling those homes with appliances made with today's efficiency standards would contribute over 100 gigatonnes of CO₂ equivalent emissions — more than twice the current annual greenhouse gas emissions.

RMI, India's Department of Science and Technology, and Mission Innovation launched the Global Cooling Prize in 2018 to help solve this problem. In 2021, two winning prototypes surpassed the prize criteria of reducing lifecycle greenhouse gas emissions by five times compared to conventional units. They also delivered efficient dehumidification — a key aspect for comfort and health. Yet, despite their incredible benefits, the models are not commercially available.

In May 2022, RMI, Lawrence Berkeley National Laboratory, and CEPT University, with support from the Clean Cooling Collective (CCC), embarked on an initiative to develop performance metrics and associated test methods to pave the way for bringing next-generation AC units to the marketplace. CCC, RMI, and partners also formed a coalition called the Global Cooling Efficiency Accelerator and kicked off field testing of room AC units in Lodha Group's Palava City — India's flagship net-zero city. Insights from the collected performance data will be released this year to help shape future policies and standards and further break down barriers to making super-efficient AC technology accessible and affordable.

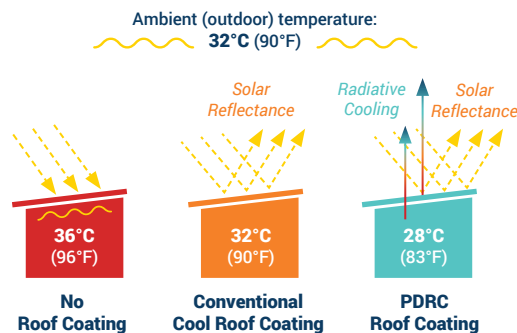
Despite the promise of these technologies, we cannot air condition our way out of this problem. We need other alternatives that are more equitable, effective, and energy efficient.



Really Cool Roofs

In many of the world's hottest countries, most people live without air conditioning and the ability to escape life-threatening heat. Many heat-related deaths occur in informal or self-built settlements, home to over one billion people worldwide.

At RMI and our climate tech innovation accelerator, Third Derivative, we're particularly excited about a class of advanced materials that provide a passive daytime radiative cooling (PDRC) effect. A sheet metal or asbestos roof, typical of many informal settlements, can heat up to 88°C (190°F) in direct sunlight when ambient air temperatures are around 38°C (100°F). A PDRC solution applied to the roof could reduce its surface temperature to at or below ambient temperatures — a potential 30°C–50°C (54°F–90°F) difference. Incredibly, this could translate to indoor temperatures 16 to 20 percent cooler on a hot day.



In areas most impacted by extreme heat, where electricity is often scarce, and where many families cannot afford air conditioning, PDRCs hold great promise. If scaled across informal settlements and low-income housing in India alone, they could save 317,000 lives and over 68 million tons of CO₂ equivalent in cooling-related emissions between now and 2030 — and far more when scaled globally.

RMI and Third Derivative are working to get PDRC solutions to market and scale. This includes testing leading products in real-world conditions and brokering partnerships between PDRC developers and leading paint manufacturers capable of producing needed quantities. We are also exploring a coalition of governments, corporations, and philanthropists that could make an advanced commitment to purchase a specific volume of PDRC products at a certain price to underpin the market at its outset.

Making PDRC roofs the easy choice will be a complex, multi-stakeholder exercise that needs careful, robust planning. It will also take real leadership — from governments in particular. But the potential climate and health impacts more than justify the effort.

SUPPORTER SPOTLIGHT

A heartfelt thank you to our Legacy Society donors like Amory Lovins whose charitable estate planning allows RMI to seize tomorrow's opportunities.



“I've made provisions for RMI in my will and know I can rely on its talented staff and forward-thinking leaders to use that support wisely to carry on my vision.”

— AMORY B. LOVINS, RMI Co-founder and Chairman Emeritus

You can be a catalyst for change like Amory by creating a lasting legacy to achieve our clean energy future. Join our society of forward-thinking donors who support RMI through their wills, trusts, or other planned gifts. Your generosity will be a lasting investment in our critical work beyond your lifetime.

Contact Margaret Salomon at plannedgiving@rmi.org or +1 303-567-8716 to learn more about planned giving or to let us know if you have already included RMI in your estate plans.

HOW YOU CAN HELP



Learn more about this work and how you can take part in the clean energy transition by scanning this QR code with the camera on your smartphone, or by visiting rmi.org/impact-summer-2024