

Why business leaders should consider a different approach to climate action

Systems thinking can multiply both climate impact and business opportunities

A JOINT REPORT BY DELOITTE AND RMI



Introduction

Realizing the Paris Agreement's ambition to hold global warming close to 1.5°C is only possible by making rapid and profound changes to the core systems that underpin modern life: energy, mobility, industrials, food, and more. It is difficult to overstate the magnitude of what's needed, or the pace at which it must happen—but this challenge is confronted knowing what needs to be done and having most of what is needed to do it. Achieving changes of the requisite speed and scale is likely only possible through non-linear, disruptive shifts and reaching tipping points within and across each of these systems.

But even as addressing climate change has rapidly become a fixture of boardroom and C-suite agendas, the evidence indicates that efforts are collectively falling short. After COVID-19 slowdowns, global greenhouse gas emissions have rebounded to near record highs.¹ As of September 2022, private-sector climate commitments in the G7 countries—not actions, only pledges—would lead to roughly 2.7°C of warming,² far above the 1.5°C target generally seen as the ceiling above which massive global disruption is highly likely. Among 25 large companies the New Climate Institute studied, most envisioned only modest cuts in total emissions, with 2030 targets falling well

short of alignment with Paris Agreement goals.³ Investor consortium Climate Action 100+ reported that, among nearly 160 benchmarked companies, only 10% had set short-term targets aligned with a 1.5°C scenario and encompassing the full suite of emissions.⁴ Change needs to be larger, faster, more effective.

Part of the problem is that many organizations treat corporate climate action strategies as incremental bolt-ons, ancillary to the fundamental rethinking that's likely necessary. Even as companies rewrite business plans to account for a cascade of external climate-related disruptions, a typical sustainability road map tends to look almost exclusively inward—taking stock of the existing emissions footprint, setting mitigation targets, developing a plan to achieve them, and turning the journey into an inspiring story for the next annual report. The most ambitious decarbonization commitments often stop at pledges to influence direct suppliers or reduce indirect emissions across the value chain.⁵

Overly cautious approaches to climate action can be rooted in ambiguous long-term goals and a tendency to plan through the lens of compliance or stakeholder management, failing to seek out or identify

future opportunities. CxOs surveyed by Deloitte in 2022, asked to name benefits from corporate climate action, cited improved brand recognition and customer satisfaction.⁶ Far fewer expected direct financial benefits from decarbonization, and fewer than half were developing climate-aligned products or working across their supply chains to decarbonize.

Especially for companies with legacy business models built on carbon-intensive processes, inertia can be a powerful force to overcome. Shifting away from proven and still-profitable activities into new and uncertain areas can be daunting or even seemingly prohibitive. Incumbents across a range of industries have at times sought to manage their own transition to a low-carbon future by taking small steps, creating optionality, and extending the timeline over which the shift will play out.

Leaders may prefer to move slowly and deliberately, looking for key energy systems and technologies to fully evolve before exploring major initiatives or business model shifts. But the emerging green economy won't wait—and neither will the rapidly warming climate. ➤

Thinking bigger, for the benefit of the company and the planet

Indeed, many corporate leaders continue to underestimate the speed and scale with which the shift to a low-emissions economy is unfolding—and they may fail to recognize the business opportunities that the transition is already surfacing. A decade ago, a go-slow strategy might have been justifiable from a business perspective; today, that approach is fraught with risk, as the economywide transformation to reduce emissions accelerates.⁷

The economics of one critical segment—electricity generation—have already tipped in favor of renewable sources in many markets, to the detriment of incumbent coal and, to a lesser extent, natural gas generation.⁸ Other areas are likely not far behind: Electric powertrains will soon surpass their internal combustion counterparts on nearly every relevant performance dimension, for example.⁹

As the shift to a climate-aligned economy unfolds at pace, there is a window for companies to both accelerate the transition and position themselves for long-term advantage. Responding with incremental or compartmentalized initiatives could lead to missed business opportunities, investment in stranded assets, or even the failure of the enterprise.



The systems breakthrough

Companies need a toolkit to help navigate the energy transition and adapt to the new economy, and that's where the language and logic of systems transformation can come in. As climate change disrupts the economy at every level, it is ever more critical for business leaders to be able to identify when systems change is happening and to understand how to respond.

Embracing systems thinking can bring numerous advantages, allowing corporate leaders to understand how transitions unfold, holistically and dynamically and across traditional industry boundaries. This opening of the aperture can expand the range of available strategic actions and business opportunities. For example, several automakers are entering the power and energy space in different ways—moves made possible only by thinking outside of the traditional auto industry and envisioning a more complex, interconnected system of electric vehicles (and their batteries), charging infrastructure, grid connectivity, renewable energy, and consumer demand.¹⁰ As new revenue models and funding sources (such as public investment

and tax credits) become available, the business case for those actions will likely become ever clearer.

Ultimately, acting through the lens of systems transformation can set up companies for long-term value creation. Early movers can shape these transformations and position themselves to create significant new financial and societal value.¹¹

How organizations can drive systems change and business advantage in the climate transition

For tackling the challenges that climate change presents, and taking advantage of the business opportunities, we see great value for leaders in emergence strategy. Using systems thinking tools, the process can surface and help accelerate the fundamental changes emerging in connection with corporate climate action. Within a system, emergence strategy can help identify new business opportunities, reach tipping points in system transitions,

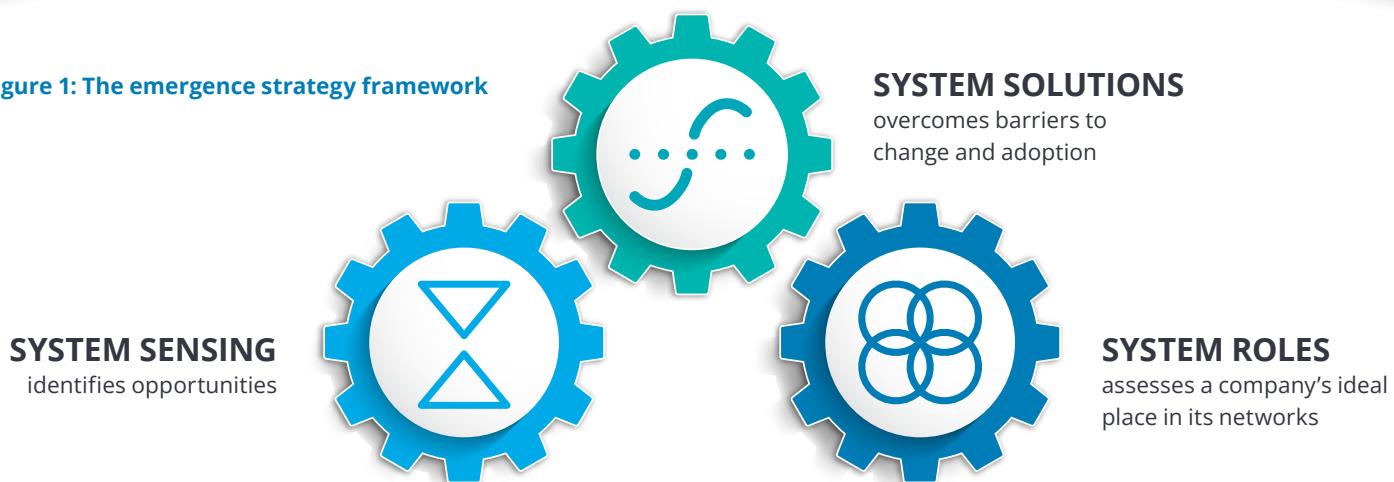
and pinpoint the roles a company can play as a catalyst, advocate, collaborator, or market leader.

What might this look like in practice? Emergence strategy can offer a way for leaders to explore opportunities linked to transformative change in products and services, business models, or supply chain relationships. In leveraging corporate climate action building blocks such as science-based net-zero commitments and scope-based emissions disclosures, the process can help leaders think past the traditional focus on competition and near-term financial value capture.

Building an emergence strategy involves three functions, applied iteratively. The first two steps can answer the traditional strategy question of Where to play? through the lens of broader system dynamics. The last step can answer the question How to win?—in which winning is as much about addressing climate change as it is about profitability, growth, or market share.

To learn more about the emergence strategy approach, read our in-depth report, [Thinking big in corporate climate action](#).

Figure 1: The emergence strategy framework



Emergence strategy in action

Gogoro finds opportunity in the transition to sustainable mobility



Deloitte analysis has identified a range of companies that have explored elements of this approach. Several automakers are entering the power and energy space in different ways.¹² Tire companies such as Michelin, Bridgestone, and Goodyear are testing airless, non-pneumatic tires based on potential advantages in terms of safety, sustainable materials, reduced weight and embodied carbon, and increased circularity in materials use.¹³ Denver-based wholesale power provider Guzman Energy is supporting energy cooperatives' transitions from fossil fuels to clean energy using financing mechanisms such as "coal swaps."¹⁴

But to illustrate how these steps might look out in the real world, consider an example: **how Taiwan-based Gogoro, the world's largest provider of light EV battery swapping, used a similar approach to expand—and change—the broader mobility system.**

Its riders have made more than 450 million total battery swaps, saving upward of 627,000 tons of CO₂ cumulatively.¹⁵

Five out of Taiwan's top six electric scooter makers use Gogoro Network battery swapping, and the company's batteries power 90% of all electric scooters in Taiwan.¹⁶

In Taiwan, one of the company's 12,000 swapping stations is within a five-minute ride for 85% of all users.

There are more Gogoro Network battery-swapping locations than gas stations across Taiwan's major cities, with more than a million batteries in service there.¹⁷



SYSTEM SENSING to identify opportunities. Using systems thinking and applying multiple lenses, leaders can identify decarbonization pathways and the most promising business opportunities to deliver needed solutions. It answers the question: *What needs to happen?*

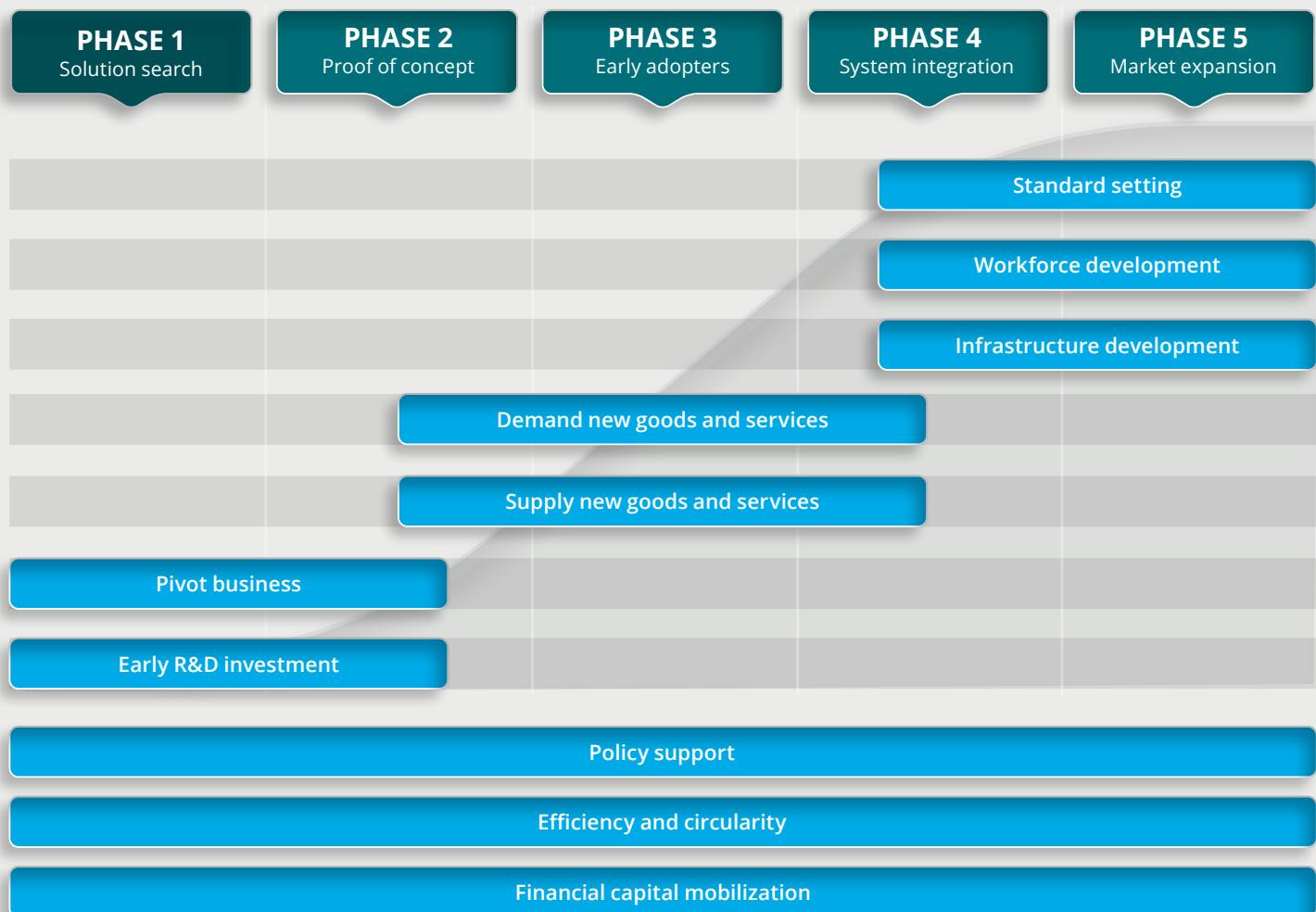
Gogoro identified two-wheeled electric scooters as a solution that could reduce overall carbon emissions while addressing customer needs in many of the world's fastest-growing economies. Viewed through the top-down system-sensing lens, low-carbon pathway studies to improve urban mobility in emerging markets show a key role for electric two- and three-wheelers, especially for first- and last-mile transportation and urban deliveries.¹⁸ From the bottom-up lens, these vehicles are now highly cost-competitive with fossil fuel alternatives while offering performance while delivering a broad range of customer benefits.¹⁹



SYSTEM SOLUTIONS to overcome barriers to change and adoption for identified opportunities. Using established frameworks for understanding systems transformation and the adoption of innovations, companies can pinpoint specific interventions that can help accelerate progress. It answers the question: *What actions can accelerate change?*

Gogoro aimed to accelerate market growth as well as company sales, developing a battery standard that could be widely used by multiple manufacturers and designing a battery-swapping platform for broad customer use.²⁰

Figure 2: System solutions by adoption phase



Source: Deloitte and RMI analysis.



SYSTEM ROLES to assess a particular company's ideal place in its various networks. Leaders should understand how the company is best suited to act and mobilize others to drive and shape systemic change. It answers the question: *How is my organization best positioned to act?*

Gogoro played the role of catalyst in an emerging business ecosystem around electric scooters in Taiwan. Early on, with high flexibility characteristic of a startup but with low influence in the broader system, the company worked strategically with partners to create greater scale and impact for its new products and services than it could have achieved by itself.

Allbirds leads with open sourcing and collaboration

Operating in a much different sector, footwear and apparel company Allbirds may be best known for its sustainability efforts.



SYSTEM SENSING

*In calculating every product's carbon footprint, Allbirds illustrates bottom-up **system sensing** in action. This data is an important ingredient for the company's sustainability strategy, which includes both its signature material innovation and energy efficiency measures such as the use of ocean shipping over air freight.²¹*



SYSTEM SOLUTIONS

*Allbirds' focus on developing new materials and products is well attuned to needed **system solutions**: The company is both showcasing what is technically possible and seems to be demonstrating that there is market demand for sustainable apparel products.*



SYSTEM ROLES

*And as a startup backed by Silicon Valley investors and pursuing a direct-to-consumer model, Allbirds' **system role** had high strategic flexibility. As a relatively small player in the footwear and apparel industry, the company sought to grow its system influence through not only open sourcing but strategic collaboration.²²*

Together, these three functions can allow leaders to assess the strategic landscape using systems thinking and to choose where and how to collaborate and compete, all with an attention to the speed and scale with which emissions reductions should occur. Emergence strategy can help leaders identify, understand, and use the unique role that a company can play in relation to other actors in its system.



Systems change for a sustainable future

Climate change and the global response to it are fundamentally altering the business landscape everywhere. Already, policies and market forces are driving innovations that are cascading across industrial systems and supply chains, opening new avenues for value creation. The pace of change is almost certain to accelerate even further as governments, companies, employees, communities, and investors are rising to meet the urgency of the climate crisis, aiming to hold global warming to around 1.5°C to avoid triggering critical planetary tipping points.²³ All of this likely points to a collective effort to transform the economy at unprecedented speed and scale. The climate-aligned economy is the economy of the future—and its design is likely to be vastly different from today's.

This transition offers tremendous business opportunity—and potential risk. A Deloitte Global analysis suggests that rapid global decarbonization could yield an economic dividend of US\$43 trillion by 2070 compared to a world of unchecked climate change.¹²⁴ In addition to reducing climate damages, a swift transition to clean energy could save trillions of dollars in avoided energy costs—capital that companies and governments might use to power new business investment and faster economic development.

An emergence strategy approach can enable companies to both accelerate the urgent systems changes needed to address the climate crisis and position themselves to create and capture new value. Climate change presents so many challenges and opportunities for even the most forward-thinking leaders to assess and act on; the shifts may be simply too big for any one organization to make a real impact on its own. The emergence

strategy approach offers a way to bring together initiatives under one umbrella, a process for integrating systems thinking into a company's corporate strategy development with a focus on sustainable solutions. This approach can be especially useful where climate imperatives are driving, or have the potential to drive, fundamental change in a sector or industry—as is likely to happen increasingly often in the coming months and years. Emergence strategy can open the aperture to imagine different futures and enable systematic exploration of their business implications.

Companies at the forefront of change can use these types of systems tools to assess and pursue strategic opportunities in concert with their overall strategies for climate and sustainability. The process can help leaders choose where and how to collaborate and compete, leveraging each company's unique role in relation to other actors in its system to accelerate the speed and scale of emissions reductions.

There is an opportunity to remake the economy to be regenerative and equitable, with human well-being and flourishing at its center. Realizing that vision requires a paradigm shift. Organizations should collectively break free from linear, business-as-usual mindsets, where tomorrow looks nearly identical to yesterday, and instead embrace systems change.

Thinking big has perhaps never been so important.



Endnotes

1. International Energy Agency, *CO2 emissions in 2022*, March 2, 2023.
2. CDP, *Missing the mark: 2022 analysis of global CDP temperature ratings*, September 2022.
3. New Climate Institute, *Corporate climate responsibility monitor 2022*, February 2022.
4. Climate Action 100+, “*Climate Action 100+ net zero company benchmark shows continued progress on net zero commitments is not matched by development and implementation of credible decarbonisation strategies*,” October 13, 2022. In June 2023, the investor group announced a shift in focus “from corporate climate-related disclosure to the implementation of climate transition plans,” aiming to help companies turn pledges into action; see Climate Action 100+, “*Climate Action 100+ announces its second phase*,” June 8, 2023.
5. The Greenhouse Gas Protocol defines Scope 3 emissions as “other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity.” See Greenhouse Gas Protocol, “*Calculation tools*,” accessed August 4, 2023.
6. Deloitte, *2023 CxO sustainability report*.
7. SystemIQ, University of Exeter, and Bezos Earth Fund, *The Breakthrough Effect*, January 1, 2023.
8. International Energy Agency, *World energy outlook 2021*, October 13, 2021.
9. Colin McKerracher et al., *Electric vehicle outlook 2020*, BloombergNEF, May 19, 2020.
10. For just one example, see Dan Gearino, “*Car companies are now bundling EVs with home solar panels. Are customers going to buy?*” *Inside Climate News*, December 1, 2022.
11. Fernando F. Suarez and Gianvito Lanzolla, “*The half-truth of first-mover advantage*,” *Harvard Business Review*, April 2005.
12. For just one example, see Dan Gearino, “*Car companies are now bundling EVs with home solar panels. Are customers going to buy?*” *Inside Climate News*, December 1, 2022.
13. Jim Davis, “*Airless tires represent another milestone breakthrough*,” *Tire Review*, May 5, 2023.
14. Guzman, *How it works* page, accessed August 2023.
15. Jam Ancheta, “*Gogoro arrives in the Philippines, introduces a more sustainable transportation*,” *JamOnline.ph*, April 27, 2023.
16. Micah Toll, “*Globe-trotting battery swapping motorbike leader Gogoro powers 90% of local electric scooters*,” *Electrek*, January 5, 2023.
17. Ibid.
18. UN Environment Programme, “*Electric two and three wheelers*,” accessed August 2023.
19. Dinh-Son Tran, Huong Le, and Francisco Posada, *Total cost of ownership comparison for electric two-wheelers in Vietnam*, Working Paper 2023-08, International Council on Clean Transportation, January 2023.
20. Shanshan Kao, “*Paving the way: A talk with Gogoro’s Horace Luke*,” *Forbes*, July 7, 2023.
21. Allbirds, “*Our sustainability strategy*.”
22. Emily Farra, “*Adidas & Allbirds are joining forces—and rewriting the rules of competition*,” *British Vogue*, May 28, 2020.
23. Pradeep Philip, Claire Ibrahim, and Cedric Hodges, *The turning point: A global summary*, Deloitte Economics Institute, May 2022.
24. Ibid.
25. Rupert Way et al., “*Empirically grounded technology forecasts and the energy transition*,” *Joule* 6, no. 9 (2022).

Authors

Deloitte



Scott L. Corwin
Managing Director
Chief Strategic and Commercialization Officer
Deloitte US Sustainability, Climate & Equity
Growth Practice
Deloitte LLP
Mobile: +1 212 653 4075
scottcorwin@deloitte.com



Derek Pankratz
Climate Change & Sustainability
Research Leader
Center for Integrated Research
Deloitte Services LP
Mobile: +1 920 242 1141
dpankratz@deloitte.com



Preeti Pincha
Director, Sustainable Systems Initiative
Deloitte US Sustainability, Climate & Equity
Growth Practice
Deloitte LLP
Mobile: +1 347 266 5412
ppincha@deloitte.com



Allison Connell
Manager
Deloitte US Sustainability, Climate & Equity
Growth Practice
Deloitte LLP
Mobile: +1 224 423 3295
aconnell@deloitte.com



Hanna Bogrow
Senior Consultant
Deloitte US Sustainability, Climate & Equity
Growth Practice
Deloitte LLP
Mobile: +1 312 486 4059
hbogrow@deloitte.com

RMI



James Newcomb
Senior Expert
Strategic Insights
RMI
Tel: +1 720 317 1019
jnewcomb@rmi.org



Laurens Speelman
Principal
Strategic Insights
RMI
Tel: +1 720 314 3511
lSpeelman@rmi.org



Yuki Numata
Senior Associate
Strategic Insights
RMI
ynumata@rmi.org

Acknowledgements

The authors would like to thank the many colleagues who contributed valuable insights for this report, including: Blythe Aronowitz, Andrew Blau, Charlie Bloch, Matthew Budman, Ambar Chowdhury, Steve Goldbach, Sydney Hicks, Matt Majsak, Marissa Medina, Rich Nanda, Anna Ng, Pradeep Philip, Michael Raynor, Jen Steinmann, and Geoff Tuff.

Deloitte.

This article should not be deemed or construed to be for the purpose of soliciting business for any of the companies mentioned, nor does Deloitte advocate or endorse the services or products provided by these companies.

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor.

Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.

About Deloitte

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee ("DTTL"), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as "Deloitte Global") does not provide services to clients. In the United States, Deloitte refers to one or more of the US member firms of DTTL, their related entities that operate using the "Deloitte" name in the United States and their respective affiliates. Certain services may not be available to attest clients under the rules and regulations of public accounting. Please see www.deloitte.com/about to learn more about our global network of member firms.

Copyright © 2023 Deloitte Development LLC. All rights reserved.



About RMI

RMI is an independent nonprofit founded in 1982 that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and NGOs to identify and scale energy system interventions that will cut greenhouse gas emissions at least 50 percent by 2030. RMI has offices in Basalt and Boulder, Colorado; New York City; Oakland, California; Washington, D.C.; and Beijing.

To the extent permitted by law, RMI will not be liable to any reader for any loss or damage, whether in contract, tort (including negligence), breach of statutory duty or otherwise, even if foreseeable, arising under or in connection with use of or reliance on any information, data or content obtained via our services, including (without limitation) the outputs stated in this report. The information contained in this report does not comprise, constitute, or provide, nor should it be relied upon, as investment or financial advice, credit ratings, and advertisement, an invitation, a confirmation, an offer or a solicitation, or recommendation to engage in any investment activity, or an offer of any financial service.