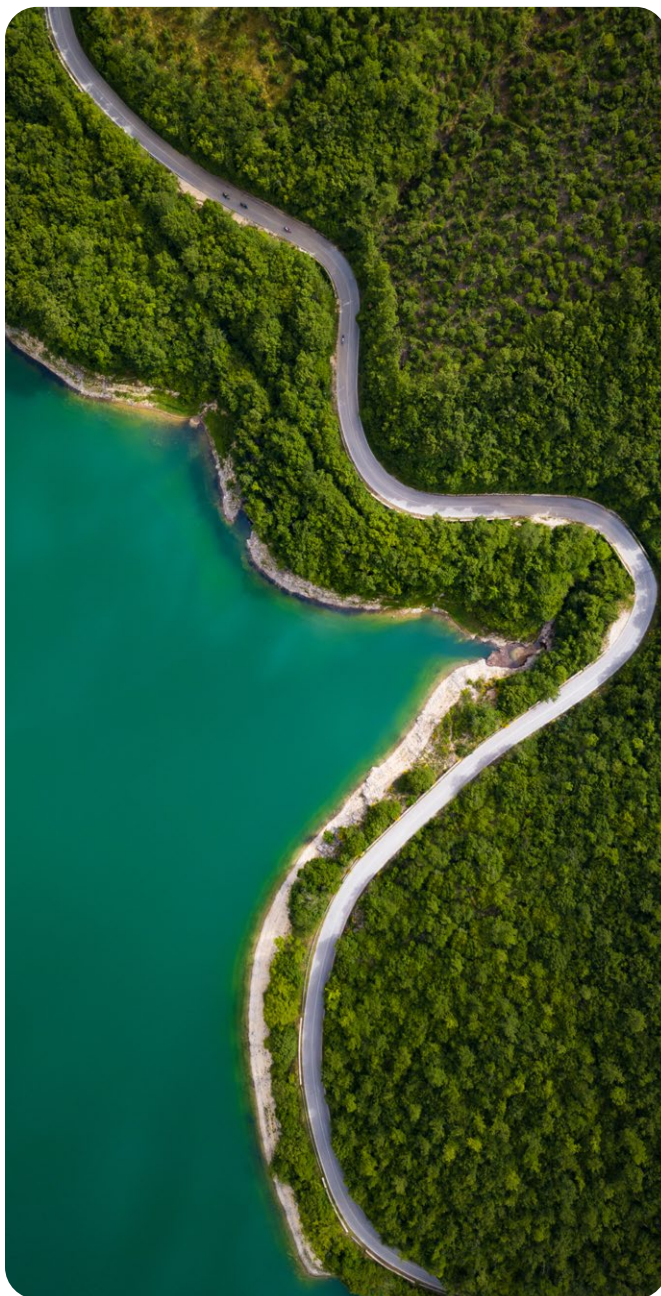


An aerial photograph of a wide river with a rocky, light-colored bed and clear, turquoise water. The river flows from the top right towards the bottom left. On the left bank, there is a dense forest of green trees. A semi-transparent white rectangular box is overlaid on the right side of the river, containing text. To the left of this box is a vertical bar with a color gradient from blue at the top to yellow at the bottom.

8 RIVERS

2023 Net Zero Solutions Report



Preface

We are thrilled to unveil 8 Rivers' first-ever Net Zero Solutions Report. The past few years have been a momentous journey, reflecting more than a decade of dedicated teamwork and relentless determination. This milestone is a testament to the incredible efforts of our exceptional team.

The current surge in support for clean energy and climate solutions is undeniable and has created a remarkable moment of opportunity. We are witnessing a convergence of influential factors, including political determination, macroeconomic transformations, and increasing global awareness, all rallying around the pioneering technologies developed by 8 Rivers. This convergence has catapulted 8 Rivers into a phase of significant expansion, attracting top-notch professionals from various sectors who share our unwavering commitment to building a cleaner future.

Central to 8 Rivers achievements are our robust partnerships, exemplified by collaborations with corporations, governments, and non-profit organizations. We firmly believe that the energy transition necessitates a collective effort, empowering diverse groups and communities to advocate for environmental progress, equity, and justice. Through these alliances, we gain valuable insights into unique needs and challenges, enabling us to develop tailored solutions for all.

In addition, support and guidance from government and community stakeholders are pivotal to our progress. Their unwavering commitment to education and mobilization has been instrumental in driving transformative change. We deeply appreciate the resolute global support we have received as governments recognize the pivotal role of the clean tech industry.

We recently marked the one-year anniversary of the passage of the Inflation Reduction Act in the United States, which continues to serve as a significant catalyst, energizing the cleantech industry and positioning 8 Rivers at the forefront of the energy transition. With the race toward deployment underway, the winners of the energy transition will be those who deliver a well-balanced combination of efficiency and scalability in a timely manner. Our goal is to ensure that 8 Rivers maintains its leading position in this transformative journey.

Our inaugural Net Zero Solutions Report presents 8 Rivers' unique approach to the energy transition and highlights our determination to overcome the challenges ahead. As we embark on this transformative journey, let us unite in the realization that our combined efforts have the potential to shape a brighter and more prosperous future for future generations.

Together, we can forge a path towards a sustainable tomorrow, and we can deliver a cleaner tomorrow, today.

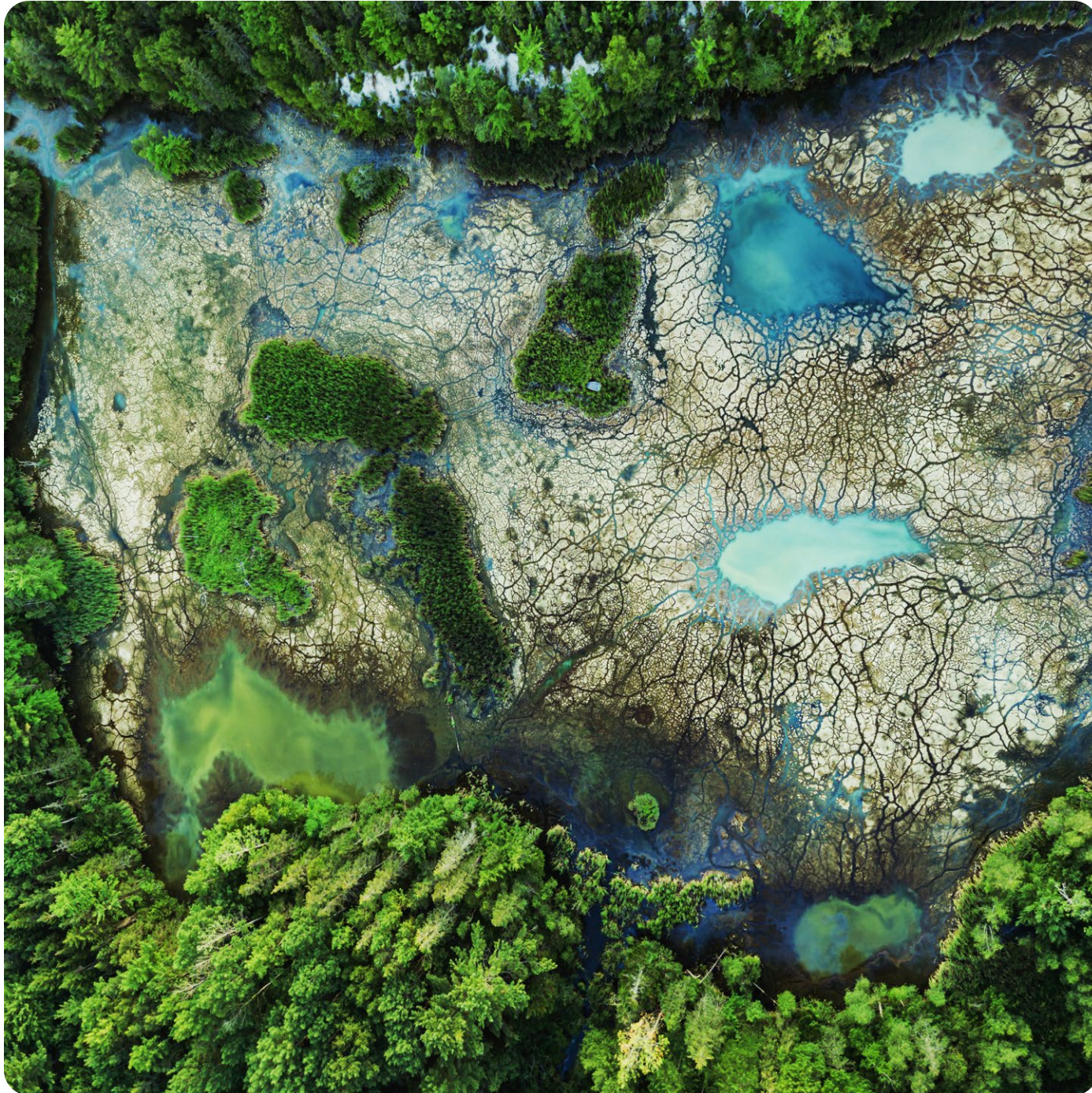


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Company Mission & Values

The world is facing an urgent need for action on climate change. Rising global temperatures, increasing extreme weather events, and sea level rise threaten the health and well-being of our planet and its inhabitants. Energy scarcity across different parts of the world has expedited the need for action on sourcing energy in an effective and sustainable manner. Innovation and technology need to be at the forefront of the effort to address these challenges. The future will be richer than today, with more of mankind enjoying the benefits of energy security and development. Our challenge is to ensure that we realize that future while protecting our environmental inheritance by creating sustainable infrastructure that meets our collective need for energy security, growth, and environmental responsibility.

At 8 Rivers, our vision is a net-zero world where clean energy powers human prosperity. We understand that energy, electricity and fuels alike, are the prerequisites to human and societal progress, and we believe that decarbonization will enable human development to flourish globally.

In addition to renewable energy, at 8 Rivers we understand that fossil fuels still play a critical role in meeting the world's energy demands. Emerging economies will demand their industrial revolutions to innovate, to create jobs, and to improve quality of life. As such we are mindful that the global energy transition requires complex solutions that take an “all of the above” approach, including efforts to decarbonize fossil fuels. We must meet countries and industries where they are today. As such, it is vital to decarbonize traditional energy sources and to adopt technologies that can minimize their carbon intensity rapidly. Accomplishing our net-zero vision will bring greater prosperity and improve life on the planet for all.

A Cleaner Tomorrow, Today

8 Rivers plays a vital role in this effort towards a clean energy and climate future by providing innovative solutions that address energy challenges at infrastructure-scale. These challenges require complex problem solving, so we seek to build a portfolio of solutions, not just single widgets. We focus our attention on emerging spaces and dare to go where others won't. By tackling decarbonization at the frontier, we can achieve outsized impact.

Our ultimate purpose is to deliver a cleaner tomorrow, today. By linking innovation with delivery, we can rapidly commercialize and deploy net-zero technologies that can be built in the world as it is now. To realize the global 2050 climate goals, we need multiple generations of infrastructure-scale deployment. This means we need to leverage solutions that can today be competitive in the market and financeable, as we've seen with electric vehicles and renewables. Delivering those solutions is the 8 Rivers way forward to a cleaner climate future.

Company History

8 Rivers is a climate technology company based in Durham, North Carolina, that focuses on infrastructure-scale clean technology innovation and commercialization. As a global leader in carbon capture, we develop and deliver sustainable solutions to enable the world's largest companies to meet their emissions reduction targets.

We began in 2008 as a small team of visionaries, engineers, and entrepreneurs tempted by the prospect of solving the most difficult global challenges. After a period of eclectic inventing, our scope narrowed around a novel clean energy thesis: to meaningfully decarbonize, we would have to engage oil and gas. Shortly after, a small but mighty team of 8 Rivers founders and principals invented the Allam-Fetvedt Cycle (AFC), our solution to generating ultra-low emissions, base-load energy from carbon-based fuels.

To commercialize the technology for natural gas, we founded NET Power (NYSE: NPWR) and then over the years added partners including Occidental Petroleum, Constellation, McDermott International, and Baker Hughes. In the first five years, 8 Rivers and NET Power developed the AFC from concept to a 50MW pilot located in LaPorte, Texas, which began operations in 2018. In 2023, NET Power went public, having raised gross proceeds of \$670 million. The 8 Rivers team continues to support the advancement of NET Power, including leading several commercial project deployments.



Since developing the AFC, 8 Rivers has become a world leader in carbon capture and oxy-combustion, holding more patents in CO₂ related to energy systems than any other entity globally. We believe that the energy transition is an enormous problem that requires an array of solutions, we have rapidly increased our technology portfolio to include industry-leading technologies in ultra-low carbon hydrogen, sour gas to sweet gas conversion, and direct air capture of CO₂. Our first 8RH₂ clean hydrogen project will produce nearly 1M tons of ultra-low carbon intensity ammonia per year. To accelerate direct air capture, we will be deploying the Carbon XPRIZE Award-winning Calcite DAC technology, first at the 50,000 tons carbon removal per year scale, and then scaling up to millions of tons per year. These are two of the many projects we are actively developing to quickly bring our portfolio to market. As our ambitions have grown, so has our team, spread around the globe.

Decarbonization will require \$200 trillion by 2050¹ - an infrastructure build out of unprecedented scale. 8 Rivers' developed projects will be a fraction of the total projects that can benefit from our technologies, so we are active in pursuing strategies to exponentially increase the impact of our portfolio. A key facet of our approach is engaging the scale and expertise of Fortune 500 partners. In 2021, 8 Rivers signed a collaboration agreement with JX Nippon to deploy carbon-capture-based projects across the globe. The SK Group invested \$100 million into 8 Rivers in early 2022 and increased its position in 2023. These key partnerships enable us to scale our work to meet the needs of 2050 Net Zero goals. We will license out our world-class technology portfolio to energy companies and projects across the world to increase and accelerate global deployment of clean energy. We fundamentally believe that combining deep industry experience with fresh, creative views and innovative technologies will be the keystone to unlock the energy transition.



Pioneering the Clean Energy and Climate Future

The 8 Rivers innovation platform is driven by a techno-economic evaluation process which prioritizes the balancing of economics with science. By combining deep technical analysis with advanced financial modeling, our unique approach to innovation empowers us to tackle the world's most meaningful decarbonization challenges, even in difficult and often overlooked markets.

We learn from our partners directly where they face challenges and set out to develop targeted solutions to meet those needs. We quickly determine if promising new decarbonization solutions will be affordable, scalable, and impactful enough to solve these major challenges. And if they are not yet there, we find new ways to achieve impact and economic viability.

Our innovation platform approach ultimately creates a portfolio of cascading and intersecting solutions that allows us to deliver even more hyper-efficient and economically viable decarbonization solutions that speed the world's transition to net-zero.

Areas of Focus

Clean Fuels

Clean fuels are carbon-free fuels primarily consisting of hydrogen and hydrogen-carrier molecules, such as ammonia. Clean fuels have cross-sector applications including high-horsepower (HHT) transportation (including marine fuels) and hard-to-decarbonize spaces such as chemicals, iron and steel, and cement. Additionally, clean fuels can be transported, offering stationary storage of power and fuel solutions to coal importing regions of the world without CO₂ storage, such as South Korea and Japan.

Clean Power

A clean grid is necessary for any meaningful climate impact. Electricity generation currently accounts for roughly a third of US energy production,³ and is growing rapidly internationally as global power generation is expected to grow from over 8,000 GW to over 20,000 GW by the mid-2030s. Decarbonizing power generation has a multiplier effect by decarbonizing end-use applications which can use electricity, and that impact is growing with increased electrification of current fuel-burning systems such as internal combustion engine (ICE) vehicles.

Carbon Removal

Carbon removal technologies, such as direct air capture (DAC), which permanently removes CO₂ from the atmosphere, are vital to helping the world achieve net zero. Merely reducing emissions will not suffice; we must also immediately begin capturing atmospheric CO₂. In addition to reducing emissions, the IPCC says we need to remove 1 billion metric tons of CO₂ from the air per year to achieve global climate goals for 2050. With today's global DAC capacity at 10,000 tons CO₂/yr or 0.001% of what we need to achieve 2050 goals,² we must close the gap.

Clean Industry

Industrial emissions are released from material and chemical production processes for common products including steel, plastic, and fertilizer. This sector is considered to have the hardest to abate emissions due to the variety of processes, high heat requirements, and use of carbon as an essential process element. As a result, the industrial sector has received only 8% of climate technology investment after accounting for roughly 30% of total emissions.⁴

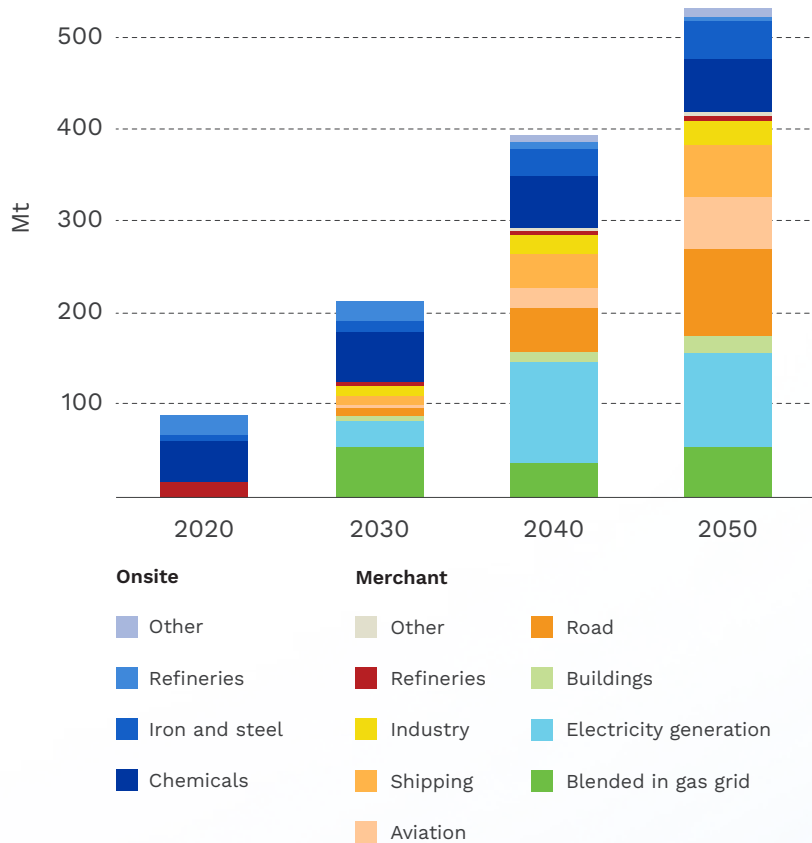
Clean Fuels

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Clean fuels, such as hydrogen and ammonia, are energy carriers that produce little to no greenhouse gas emissions or air pollutants when used in various sectors of the economy such as energy generation, heating, transportation, and industrial processes. Cleaner fuels play a crucial role in our mission by reducing the overall environmental impact of energy use across many sectors, ultimately contributing to a cleaner climate future. While clean fuels like hydrogen have promising decarbonization potential, its widespread adoption faces challenges related to production, infrastructure, and cost.

As we navigate the path towards Net Zero, we recognize the efforts underway to address critical challenges and scale up the production of low-carbon clean fuels to accelerate the energy transition.

Global Hydrogen and Hydrogen-Based Fuel Use to Reach Net Zero 2050



Challenges

Cost: For global uptake, clean fuels must be sufficiently cost-competitive with traditional carbon-emitting fuels. Technology development should be focused on both minimizing the Levelized Cost of Energy (LCOE) and production Carbon Intensity (CI), or a proper balance when the two are in conflict.

Transportation: Hydrogen is low density and requires a large amount of energy for liquification which increases transportation costs. Low transportation cost and ease of transport is necessary for hydrogen’s viability as a clean fuel. As such, transportation is a current open challenge.

Net Zero by 2050⁵

500Mt

Required annual hydrogen production by 2050

>70%

Electricity and hydrogen-based fuels’ share of the transportation sector’s total fuel demand in 2050

45%

Ammonia’s share of the shipping industry total fuel demand in 2050

Clean Fuels

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Emerging Technology Highlight

Ammonia has high potential as a carbon-free hydrogen carrier. There is an existing global production and transportation infrastructure in place from the fertilizer market, and it is well understood how to handle ammonia and scale the infrastructure. Ammonia can be directly co-fired in coal plants or burned as a bunker fuel replacement in long-haul marine vessels. Moreover, ammonia cracking technology (NH_3 to H_2) is available to convert ammonia back to hydrogen at the end user site.

Current Technologies

Electrolyzers use electricity to split water into oxygen and hydrogen. The US grid is not clean enough to produce low CI hydrogen from on-grid electrolyzers, so hydrogen is produced from off-grid (renewable) units. Electrolyzers, namely alkaline and PEM, are commercially available with new electrolyzer technologies in development.

Steam Methane Reforming (SMR)

SMR is the historic production process for hydrogen. SMR uses natural gas as a feedstock and has external heating requirements which are typically met using carbon fuels. SMR can be retrofit with carbon capture to decrease the high inherent carbon intensity of the process.

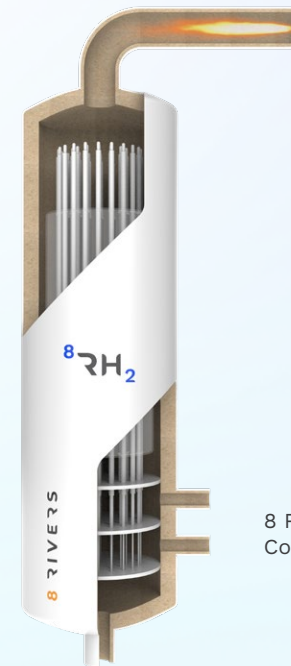
Autothermal Reforming (ATR)

Similar to SMR, ATR uses a hydrocarbon feedstock. However, ATR does not have external heating requirements and can use integrated CO_2 recovery units along with pure oxygen input to reach 95% carbon capture rates.

8 Rivers Approach

Low cost, ultra-low carbon hydrogen

8 Rivers' strategy in developing a breakthrough clean hydrogen technology is to focus on developing economic and scalable solutions with ultra-low carbon intensity. Using our 15 years of technical and market knowledge in CO_2 processes and heat transfer, we developed 8RH₂ which uses a proprietary CO_2 Convective Reformer (CCR) technology to achieve >99% carbon capture at lower cost than current approaches, aiding the transition to hydrogen-based fuels. Given the different supply chain requirements from electrolyzers, 8RH₂ will be complementary in enabling a large-scale buildout of ultra-low CI hydrogen production capacity.



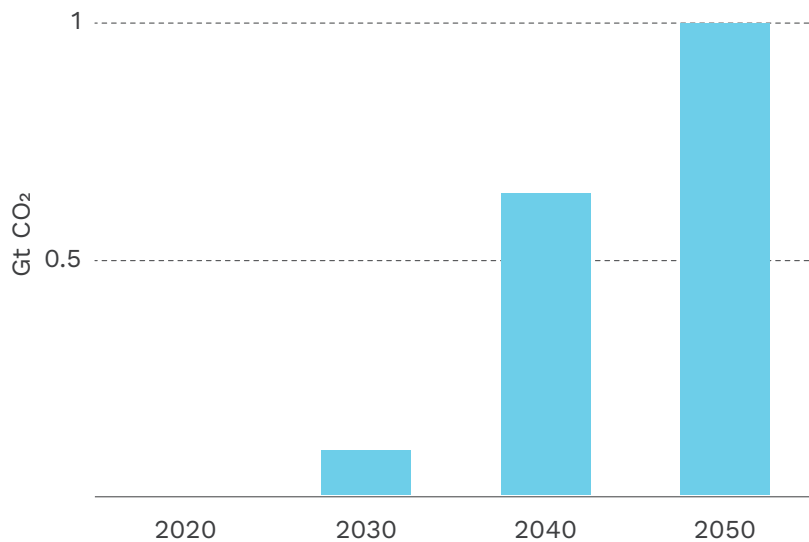
8 Rivers' proprietary CO_2 Convective Reformer (CCR)

Carbon Removal

8 RIVERS

Carbon removal technologies, such as direct air capture (DAC), which permanently remove CO₂ from the atmosphere, are pivotal in combating climate change and realizing our Net Zero ambitions. With escalating global emissions every year, merely reducing emissions is not enough; we must also remove them from the atmosphere. DAC innovations are designed to extract CO₂ directly from ambient air which makes them a significant strategy for decarbonization. While scaling carbon removal has its infrastructural and economic challenges to overcome, we recognize its immense potential for substantial climate impact.

Necessary DAC Buildout to Reach Net Zero 2050



Challenges

Scalability: The world needs a massive buildout in DAC capacity. Technology must be easy and cost-efficient to scale. Demand on the voluntary market is far outpacing supply in the CO₂ offtake credits produced by DAC.

Time to Market: DAC technology needs to be commercialized as soon as possible to meet global climate goals. Investment should be focused on bringing down the costs of technologies which are effective in the near term rather than perfect in the long term.

Net Zero by 2050

98,000x

Required DAC CO₂ capture capacity growth by 2050⁶

\$3.5B

Invested by the US DOE to support DAC through 2026⁷

\$200B

Required investments in DAC infrastructure by 2050⁸

Carbon Removal

8 RIVERS

Government Support Highlights

Government incentives will catalyze DAC buildout. Tax credits improve the business case, providing a base-level of security to DAC projects. The Inflation Reduction Act, specifically 45Q, uniquely advantage DAC buildout within the US providing \$180 per tonne of CO₂ sequestered. These tax credits coupled with ample land and CO₂ sequestration infrastructure and geology, make the US an ideal location for deploying DAC. The US Department of Energy in August 2023 announced \$99 million invested across 15 direct air capture projects, including over \$10 million awarded to the Southeast DAC Hub which leverages 8 Rivers' Calcite as one of the two DAC technologies.

Current Technologies

DAC is an emerging technology, and even the most advanced approaches lack sustained, large-scale demonstration. All technologies follow the same process: ambient air is pushed over an adsorption material which reacts with CO₂ at an average concentration of approximately 415 ppm in the air. Once reacted, the CO₂ must be separated through desorption and either sequestered or utilized as a product. Geologic sequestration of the nearly pure CO₂ is most common. Below outlines the most mature approaches with a caveat that there is a significant amount of research being directed to validating novel processes, such as metal organic frameworks and moisture-swing adsorption.

Liquid Solvents

Solvent-based technologies use liquids as the capture material and typically have a higher temperature heat requirement for regeneration than sorbent-based systems. They generally can utilize cooling tower-based designs and can handle large volumes of air.

Solid Sorbents

Sorbent-based technologies use solids as the capture material and often require a low temperature for CO₂ separation compared with liquid solvents. The most mature sorbent systems use amine-based solids.

8 Rivers Approach

Simple and scalable carbon removal leveraging the natural calcium cycle

We recognize DAC is an emerging technology of high importance and risk, thus 8 Rivers is focused on developing a simple and scalable solution. The Calcite DAC process leverages the natural calcium cycle and existing lime supply chains. We believe this will accelerate scaling while mitigating the risk inherent to any new technology. With hundreds of billions of tons of legacy emissions that could be removed, the DAC opportunity is massive and requires support from both industry and governments. A build-out of a diversity of technologies in this field is important to decreasing risk and climbing closer to capacity goals.



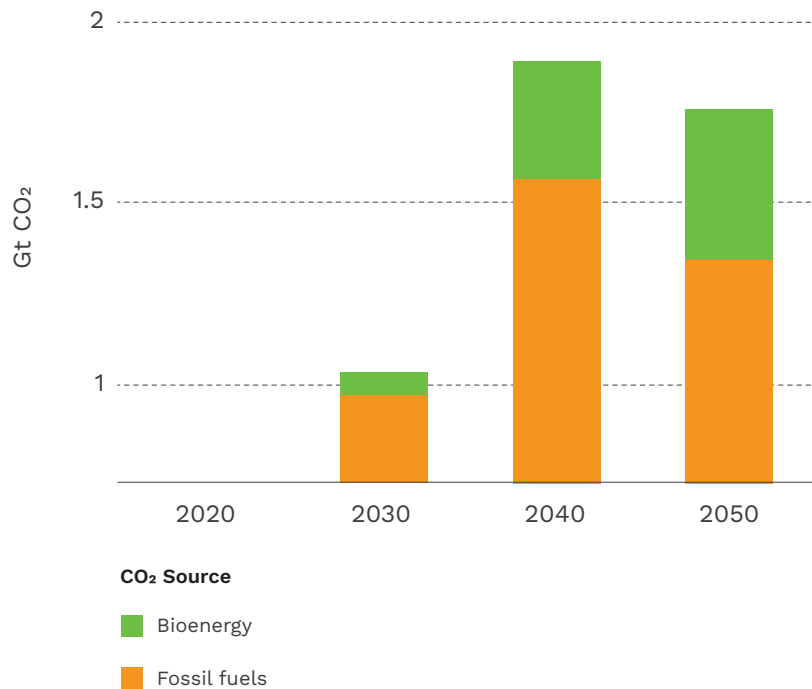
Rendering of a Calcite production facility

Clean Power

8 RIVERS

Clean power solutions are essential for achieving Net Zero. Traditional energy production has been a primary source of both human development and greenhouse gas emissions. As power demands increase from globalization and the emergence of developing economies, the need for flexible clean power technologies becomes increasingly urgent. From renewables to fossil fuels with carbon capture, the rapid deployment of innovative clean power technologies is not just a “nice-to-have,” but a necessity if we hope to mitigate the worst effects of climate change. As we strive towards a more sustainable tomorrow, we recognize that meeting power demand requires an all-of-the-above approach to clean power solutions.

Necessary Power With CO₂ Capture to Reach Net Zero 2050



Challenges

Investment Cost: New or retrofit large-scale energy generation facilities require a significant upfront capital investment.

Infrastructure: The energy grid and energy supply chain are built for traditional, carbon-intense generation facilities.

Complex Projects: Large power generation facilities require coordination of many parties which can complicate deployment of novel technology.

Net Zero by 2050⁹

14Gt

Required CO₂ emissions reductions within Power sector by 2050

1,330TWh

Estimated electricity generation from fossil + CCS in 2050

840TWh

Estimated electricity generation from bioenergy in 2050

Clean Power

8 RIVERS

Emerging Technology Highlight

Biomass inherently captures atmospheric CO₂. When it is used as a feedstock paired with CO₂ sequestration, the process becomes carbon negative. Biomass firing has the potential to create carbon negative power and clean fuels, lowering the carbon intensity of traditional combustion and gasification processes below renewables.

Current Technologies

Renewables

Renewables produce electricity from natural sources primarily including wind, solar, geothermal, and hydropower. Increasing growth in long-duration storage can pair well with renewables to provide stable power. Renewables currently account for 20% of US electric generation.¹⁰

Nuclear

Nuclear power plants supply 20% of America's electricity and are 100% carbon free. It has proven challenging to build new nuclear plants due to high capital costs.

Post-Combustion Capture (PCC)

PCC captures the CO₂-rich flue gas which is emitted from fossil-based combustion. PCC systems are typically retrofit on existing power plants and capture 90-95% of CO₂ emissions. Current commercial systems are amine-based.

Oxy-Combustion Power Cycles

Oxy-combustion inherently captures all of its CO₂, avoiding the need for post combustion capture. The Allam-Fetvedt Cycle reaches high efficiencies by using supercritical CO₂ to drive turbines with a semi-closed loop process which inherently eliminates emissions from carbon-based fuels.

8 Rivers Approach

Zero-to-negative emissions power from traditional fuels

Fossil fuels are the foundation of global energy production. Further we are decades away from being able to reduce our dependence – if ever. Given that reality, 8 Rivers developed the AFC as a low-cost way to generate emission-free power from carbon-based fuels. The AFC is versatile and can be applied to a variety of carbonaceous fuel sources including natural gas and biomass and can integrate with many industrial processes. It offers significant opportunities for carbon reduction for decarbonizing the coal resources in Asia and elsewhere, while biomass-fed AFC enables atmospheric carbon removal at transformative scale. Additionally, 8 Rivers expects a large viable business with co-production of H₂/NH₃ alongside power, as hydrogen can be separated in the gasification process.



Graphic of biomass facility

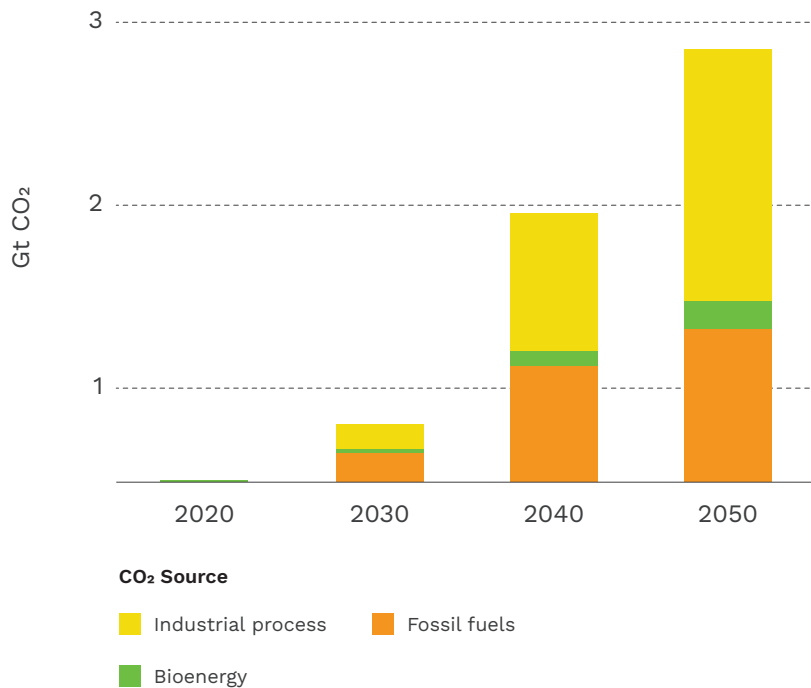
Learn more on 8Rivers.com

Clean Industry

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Clean industry represents the efforts to decarbonize the hardest-to-abate parts of our economy. Steel, cement, and other industrial sectors contribute a significant part to global emissions, but their processes complicate their path to carbon neutral. As countries continue to develop their infrastructure and improve quality of life, global demand for building materials, manufacturing, and industrial products will only keep rising. The development and delivery of clean industry technologies will be essential if the world hopes to reach Net Zero.

Necessary CO₂ Capture in Industry to Reach Net Zero 2050



Challenges

Process Diversity: Industrial facilities are not single process environments. Refineries, petrochemical plants, industrial gas facilities, and similar industrial assets include many different internal processes, produce multiple products, have numerous emissions sources, and are often integrated with surrounding infrastructure.

Process Requirements: Many of the highest emitting processes, such as steel and cement, use and generate carbon as a part of the process and require high energy heat sources.

Net Zero by 2050¹¹

93%

Decrease in emissions from heavy industries to reach Net Zero by 2050

35

Years average lifespan of industrial asset

1

Number of heavy industry investment cycles between now and 2050

Clean Industry

8 RIVERS

Emerging Technology Highlight

KC8 Technologies has developed a potassium carbonate-based post combustion capture process which offers major capital and operating cost reductions over existing and upcoming solutions. Using flexible pre-built components, KC8 adds affordability and reduces risk. Additionally, the technology uses a natural, non-toxic, and abundant solvent.

Current Technologies

Post-Combustion Capture (PCC) pulls CO₂ from a concentrated stream of exhaust gas. After capture, the CO₂ is geologically stored or utilized as a product such as concrete, plastic, or foam. PCC can be applied broadly to industrial processes but note that there are numerous process-specific technologies in development including integrating clean fuels and increasing energy efficiency.

Amine Systems

Amine-based systems are the most advanced PCC technology with many commercial suppliers and existing deployments on industrial facilities including steel and ethanol. However, the technology requires a high temperature for regeneration and degraded amine solvents have toxicity challenges.

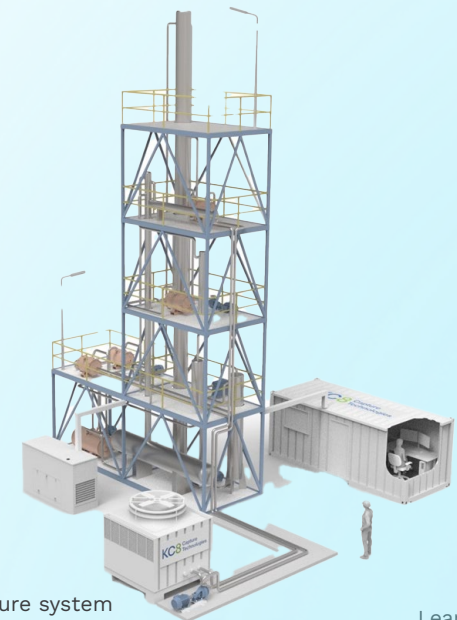
Non-Amine Systems

Non-amine systems are an emerging second generation of post-combustion capture technology. These solvents are more energy efficient and have a lower volatility and environmental impact, but they require development at scale.

8 Rivers Approach

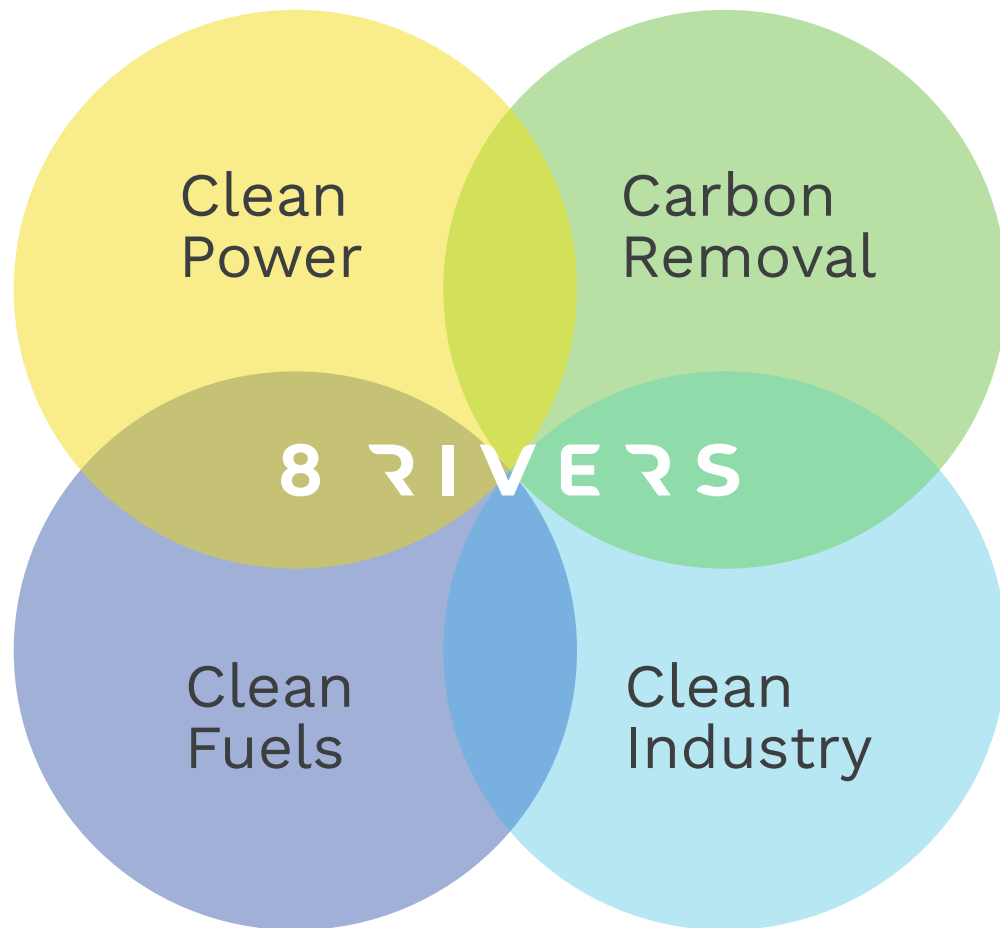
Abating industrial emissions through a multi-faceted strategy

Industrial emissions are one of the hardest to abate sectors, but they represent a significant percentage of global emissions which means progress will have a disproportional impact compared with other sectors. 8 Rivers welcomes this challenge. Reducing industrial emissions requires partners who have a toolbox of solutions, not just a single widget, and the company's platform and portfolio is aimed at offering this toolbox. The AFC provides clean electricity and 8RH₂ provides clean fuel. Additionally, we are commercializing KC8 Technology's PCC process UNO MK 3, a member of a new generation of non-amine solutions which have cost and toxicity benefits over amines.



Rendering of the KC8 post-combustion capture system

Learn more on 8Rivers.com



Cross-sector Decarbonization

8 Rivers is a clean energy and climate technology company with a diversified portfolio of decarbonization-focused technologies. We aim to be the pre-eminent company in the energy transition, recognized for our innovation, aggregation, and deployment of net-zero solutions, catalyzing at least a billion tons of CO₂ reduction by 2035. 8 Rivers offers cross-sector decarbonization solutions and continues to innovate based on needs across the energy transition.

Technology Portfolio



8 RIVERS ENERGY

8 Rivers Energy is powered by the Allam-Fedvedt Cycle (AFC), a ground-breaking process which provides ultra-low emissions clean power from a variety of feedstocks, including biomass, to generate carbon-negative power. The AFC has the potential to decarbonize operations and power generation across industries.



8RH₂

8RH₂ produces ultra-low CI hydrogen from natural gas with >99.9% CO₂ capture. 8 Rivers is currently developing a infrastructure-scale production complex on the US Gulf Coast which will produce clean ammonia.



CALCITE

Calcite uses well-understood calcium-based technologies and materials to enable CO₂ removal from the air at a low cost and with minimal technical risks. 8 Rivers can rapidly deploy large-scale Calcite facilities in the US to become one of the first large direct air capture providers, eventually helping remove over a millions of tons of CO₂ from the air.



KC8

KC8 can be deployed across a range of emissions sources to provide non-toxic, low-cost point-source carbon capture. The novel solvent is safe and naturally occurring, and results in a process which costs 50% less than traditional amines.

Looking Ahead

8 Rivers has evolved over the past 15 years into a leading decarbonization solution provider - we are inventing, deploying, and scaling infrastructure-scale solutions for the thorniest decarbonization challenges. As the momentum for climate technology grows, we have established a unique position for driving the energy transition forward. Notably, our partnership with the SK Group, which began with a \$100 million investment in 2022 which then grew in 2023, has propelled our rapid growth trajectory and positioned us to support a broader range of decarbonization efforts globally.

At Innovation Zero 2023, we unveiled our second-generation 8RH₂ hydrogen production technology, which leverages advanced CO₂ processes and achieves unmatched carbon capture – in excess of 99.9%. This groundbreaking technology enables the production of ultra-low carbon intensity hydrogen and hydrogen-derived products, including ammonia for decarbonized fertilizer, zero-carbon maritime fuels, and as a replacement for coal in existing power infrastructure. We're currently developing our flagship 8RH₂ complex in the US Gulf Coast, which will produce nearly one million tons of ammonia per year – a demand that we see growing exponentially.

Biomass represents a key focus in our technology pipeline, offering a versatile solution across our portfolio. By utilizing components from natural gas and coal-based processes, biomass with full carbon capture enables us to produce carbon-negative energy products, including power and hydrogen. This approach goes beyond low carbon intensity, providing a negative carbon intensity, further enhancing our impact on global emissions reduction.

Looking ahead to 2035, we envision 8 Rivers as a major driving force in industrial decarbonization. With our diverse portfolio, in-depth industry knowledge, and strategic partnerships, we will provide customers with economic and actionable pathways to decarbonize. By integrating markets and technologies through our solutions platform, we aim to assist the world's largest emitters in their decarbonization efforts.

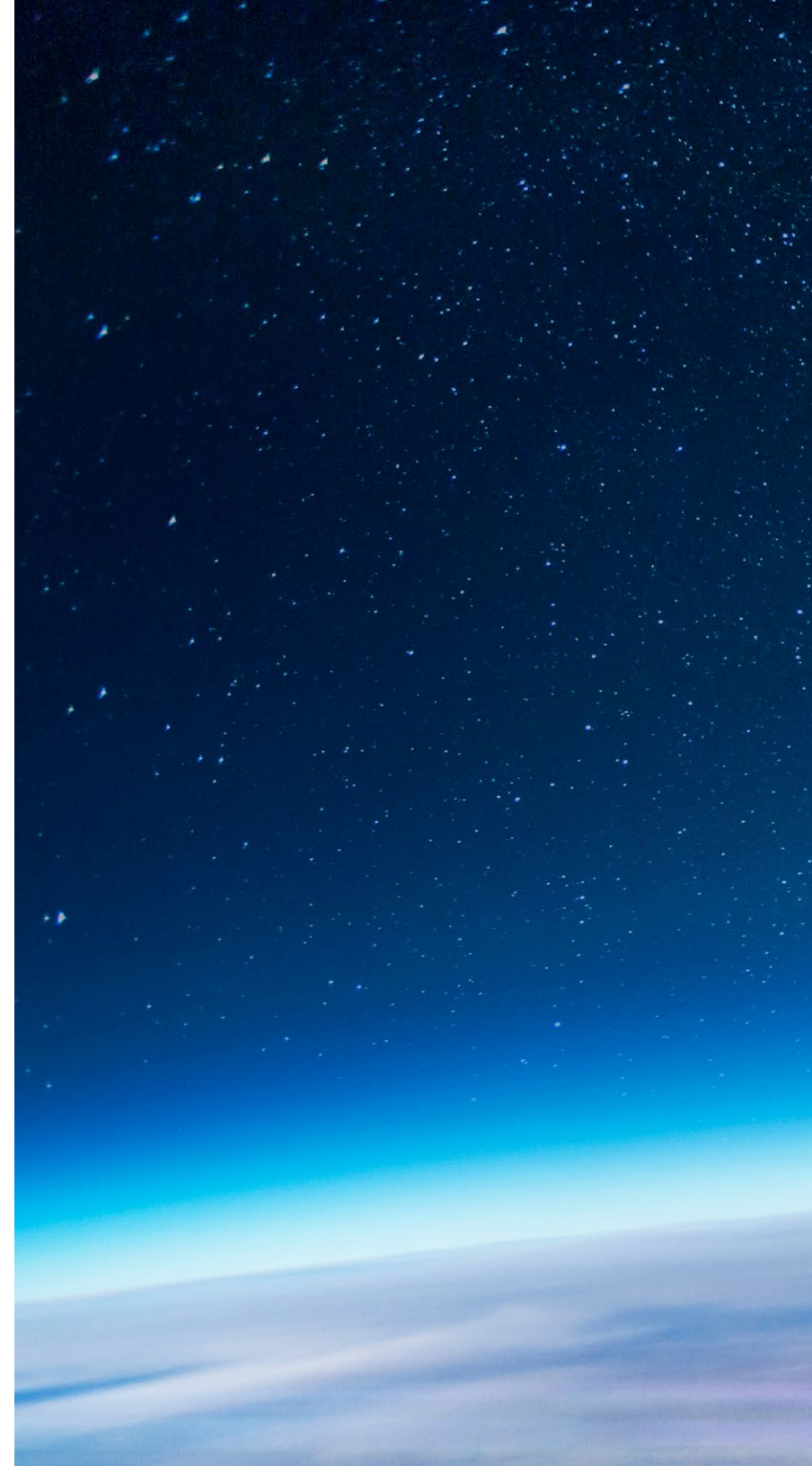
We welcome you to join us on this journey and take the next step towards a net-zero world. Together, we can make a tangible impact on creating a cleaner and more sustainable future.





References

- ¹ Bloomberg NEF (2022), New Energy Outlook 2022
- ² International Energy Agency (2021), Net Zero by 2050
- ³ U.S. Energy Information Administration (2021), Energy Consumption by Sector
- ⁴ PwC (2021), State of Climate Tech 2021
- ⁵ International Energy Agency (2021), Net Zero by 2050
- ⁶ International Energy Agency (2021), Net Zero by 2050
- ⁷ U.S. Department of Energy (2023), Regional Direct Air Capture Hubs
- ⁸ Boston Consulting Group (2023), Shifting the Direct Air Capture Paradigm
- ⁹ International Energy Agency (2021), Net Zero by 2050
- ¹⁰ U.S. Energy Information Administration (2021), Energy Consumption by Sector
- ¹¹ International Energy Agency (2021), Net Zero by 2050



About this Report

This report contains forward-looking statements relating to 8 Rivers' operations and energy transition plans that are based on our current expectations, estimates, and projections about the carbon removals, chemicals, and other energy-related industries. These statements are not guarantees of future conduct, policy, or performance and are subject to certain risks, uncertainties, and other factors, many of which are beyond the company's control, including government regulation and commodity prices.

Therefore, the actual conduct of our activities, including the development, implementation or continuation of any program, policy, or initiative discussed or forecasted in this report, may differ materially in the future. As with any projections or estimates, actual results or numbers may vary. The performance data in this report are not guarantees of future performance nor intended to be a demonstration of linear progress against aspirations, targets, or objectives. Many of the standards and metrics used in preparing this report continue to evolve and are based on 8 Rivers' assumptions believed to be reasonable at the time of preparation but should not be considered guarantees, and no representation or warranty is made as to the accuracy or completeness of the data. The statements of intention in this report speak only as of the date of this report. 8 Rivers undertakes no obligation to update publicly any statements in this report.

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