

XPRIZE
CARBON
REMOVAL

MUSK FOUNDATION

POST-PRIZE IMPACT REPORT

2026

Prize Overview

The \$100M XPRIZE Carbon Removal competition was launched in 2021 to accelerate scalable, durable, and verifiable carbon dioxide removal solutions capable of operating at gigatonne scale. The prize challenged teams across technological pathways—nature-based, engineered, and hybrid approaches—to demonstrate performance, scalability, and long-term carbon durability.

Over four years, the competition convened a global ecosystem of innovators, researchers, students, and investors—helping define the next generation of carbon removal technologies and catalyzing rapid industry growth at a critical moment for climate action.

Prize
Purse

\$100M

Competition
Duration

2021 - 2025

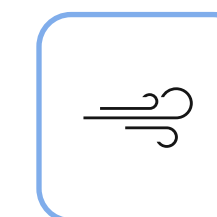
Registered
Teams

1,334

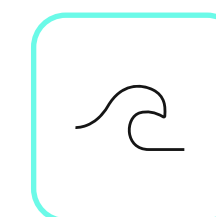
Countries
Represented

88

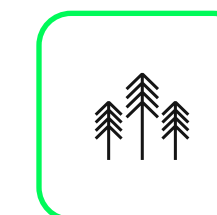
Carbon
Removal
Solution Types
Represented



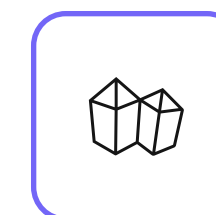
AIR



OCEAN



LAND



ROCKS

Qualified and Distinguished Teams

Over the course of the four-year competition, an independent panel of Judges identified **332 Qualified Teams**. This includes [23 Student Winners](#) announced in 2021, [287 Qualified Teams](#) announced in 2022 for the Phase 1 Milestone Round, and the [Top 100 Teams](#) announced in 2024 for the Phase 2 Final Round. Some teams were recognized across multiple cohorts and phases.

Additionally, the Judges gave special recognition to **136 Distinguished Teams** over the course of the competition, and a handful of these teams also received monetary awards. This includes the [23 Student Winners](#), the [Top 60 Teams](#) for the Phase 1 Milestone Round (inclusive of the [15 Milestone Winners](#)), the [Top 100 Teams](#) for the Phase 2 Final Round (inclusive of the [20 Finalists](#) and [6 Final Winners](#)).

STUDENT AWARDS 2021

\$5M

23 Student Awards

MILESTONE AWARDS 2022

\$15M


15 Milestone Awards
Top 60 Teams
287 Qualified Teams

FINAL AWARDS 2024-2025

\$80M

20 Finalists (2024)
Top 100 Teams (2024)
6 Final Awards (2025)

Final Winners




GRAND PRIZE WINNER

Mati Carbon (USA / India)
\$50M



1ST RUNNER-UP

NetZero (France/Brazil)
\$15M



2ND RUNNER-UP

Vaulted Deep (USA)
\$8M




3RD RUNNER-UP

UNDO Carbon (UK/Canada)
\$5M



PLANETARY X-FACTOR OCEAN

Planetary (Canada)
\$1M



PROJECT HAJAR X-FACTOR AIR

Project Hajar (Oman/USA)
\$1M

XPRIZE Impact Framework

Every XPRIZE competition is designed around a proven impact framework that transforms bold philanthropic capital into scalable, real-world outcomes. This framework centers on four key pillars of impact—Innovation, Awareness, Technology Readiness, and Capital—through which XPRIZE tracks the downstream ripple effects of a prize far beyond its award date. At the core of this model is Prize-Purse Return on Investment (ROI): the ratio of philanthropic dollars awarded to the measurable outcomes they unlock. Across XPRIZE’s 30-year history, this model has consistently delivered exponential returns, validating incentive prizes as one of the most effective levers for solving global challenges. For XPRIZE Carbon Removal, this framework has already delivered a 39x return on the \$100M prize purse.





Executive Summary:

Carbon Removal Prize Impact

The \$100M XPRIZE Carbon Removal competition has already catalyzed the formation of a thriving carbon removal industry—accelerating innovation, creating hundreds of companies, unlocking over \$3.3B in capital, generating thousands of skilled jobs, and dramatically expanding public and scientific understanding of carbon removal. In aggregate, these outcomes already represent an estimated **39x Prize-Purse Return on Investment**—captured just months after the competition concluded.

Over half of the registered teams were founded after the prize launched, and dozens are now operating pilot projects or commercial deployments across six continents. This competition served as a tipping point for the field, validating key technologies, building investor confidence, and driving the emergence of entirely new markets. The impacts outlined in this report represent just the beginning as the prize’s ripple effects will continue to grow for decades to come.



Innovation



The initial design of the XPRIZE Carbon Removal competition recognized that solving climate change requires not just innovation—but innovation with the potential to scale.

By setting audacious, measurable goals, the prize accelerated innovation through deep scientific rigor, sustained R&D, and cross-sector collaboration. This structure catalyzed a surge in patent filings, research publications, and iterative development—driving breakthrough solutions that are not only scientifically sound but also technically and economically viable.

XPRIZE site visit to Heirloom's DAC plant in Tracy, California.



Catalyzing a New Industry

Building the next generation of carbon removal companies.

The XPRIZE Carbon Removal competition played a catalytic role in shaping a rapidly emerging industry. While carbon removal is now recognized as essential to meeting global climate targets, much of today’s innovation ecosystem did not exist prior to the prize.

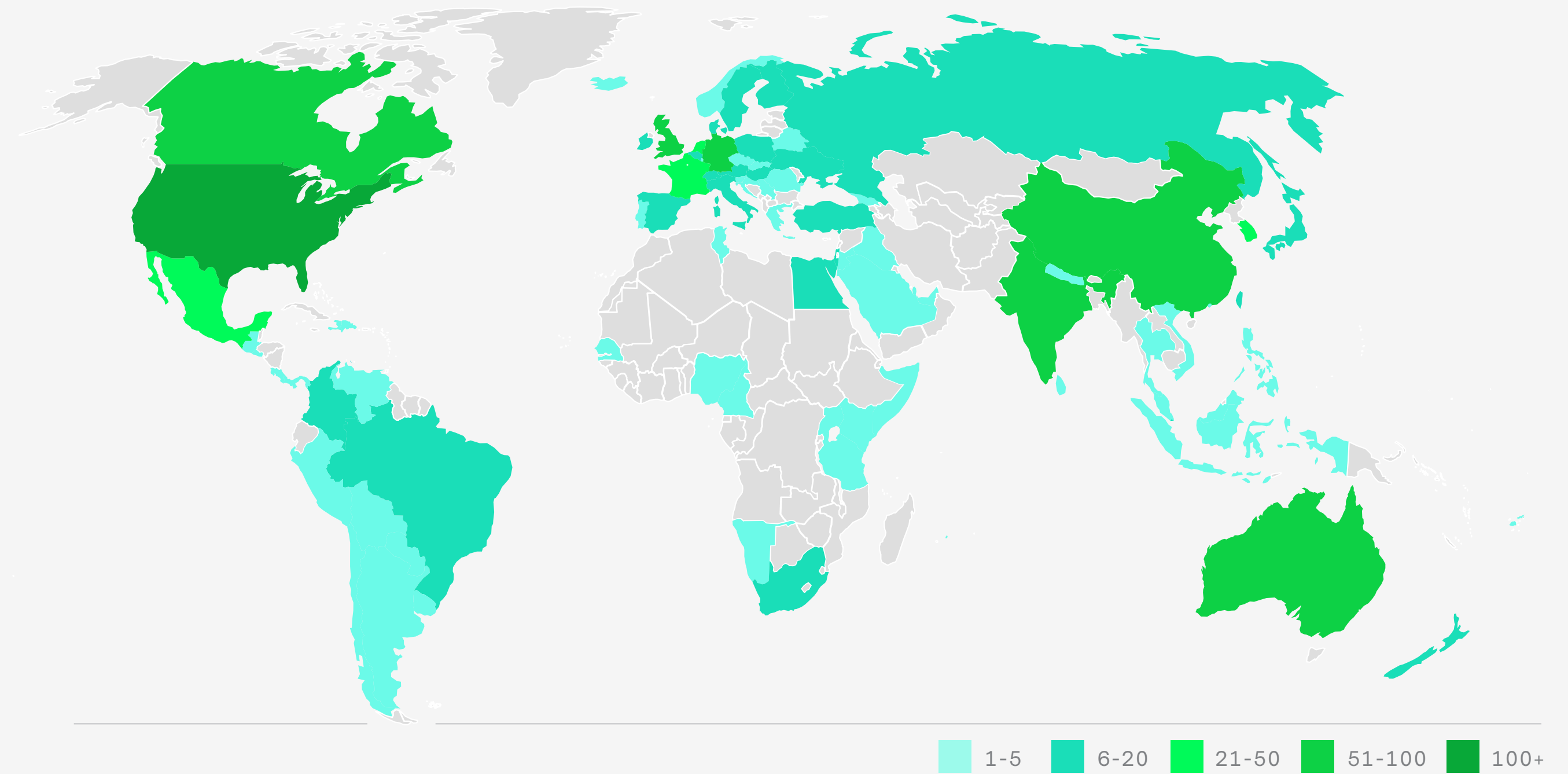
1 Of the 1,334 registered teams, 50% were founded after the prize launched in 2021, making the competition a defining force in the creation of new carbon removal companies.

2 These teams represent the **next generation of carbon removal innovators**, developing early-stage technologies that are now advancing toward pilot projects, commercial deployments, and long-term scale.

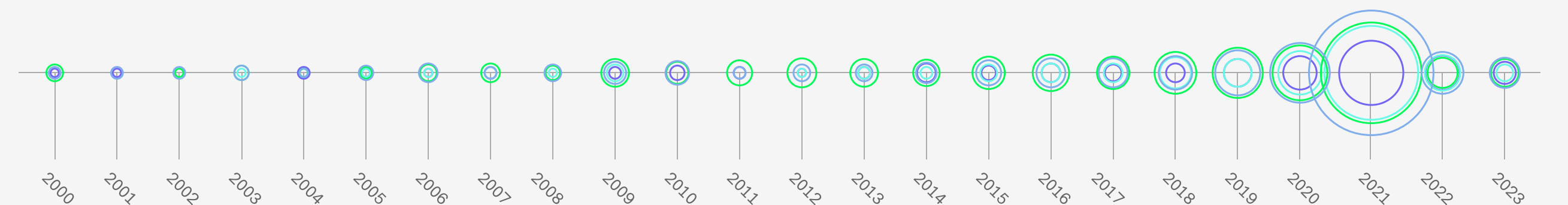
3 XPRIZE Carbon Removal Teams have been spread across **six continents**, underscoring the competition’s role in catalyzing a truly global carbon removal industry rather than a regionally concentrated innovation cluster.

By lowering barriers to entry and setting ambitious performance targets, the prize transformed carbon removal from a fragmented research domain into a globally energized innovation ecosystem—one defined by technical ambition, entrepreneurial growth, and real-world deployment.

MAP OF THE 1,334 REGISTERED TEAMS



REGISTERED TEAMS YEAR FOUNDED





Accelerating Teams Toward Commercialization

While the XPRIZE Carbon Removal competition catalyzed breakthrough technical innovation, XPRIZE also expedites the transition from research to commercialization through targeted acceleration programs for competing teams (startups). In partnership with [Creative Destruction Lab](#) (CDL)—one of the world’s leading science-based startup accelerators—XPRIZE created a dedicated cohort for carbon removal innovators in the final year of the competition, drawing from the most promising teams. The program connected founders with experienced operators, investors, and domain experts to refine business strategy, accelerate commercialization pathways, expedite fundraising, and prepare companies for scale.

Despite representing a small share of ventures in the broader Creative Destruction Lab ecosystem, carbon removal companies have demonstrated outsized performance. In the 2024–2025 CDL program year, carbon removal ventures accounted for **37% of total equity value created (\$522M CAD of \$1.4B CAD)** and **39% of total capital raised (\$117M CAD of \$302M CAD)** across the program—despite representing **less than 5% of admitted ventures**. These results underscore both the rapid maturation of carbon removal companies and the strong market and investor interest emerging around the sector.

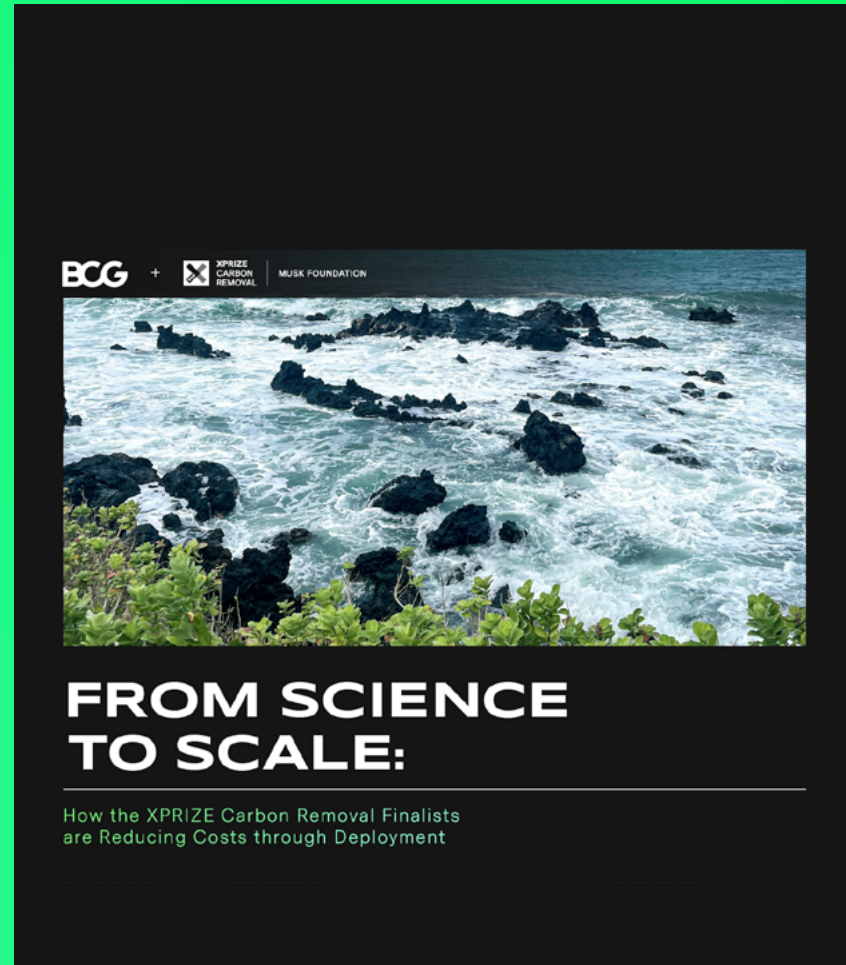
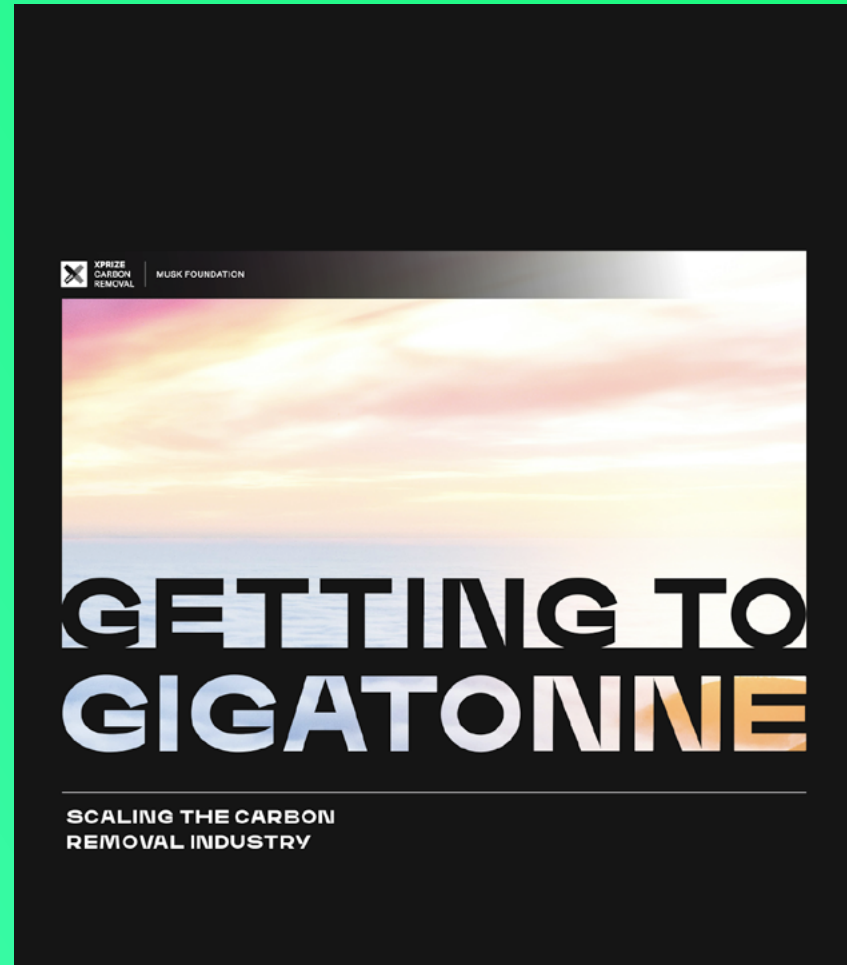
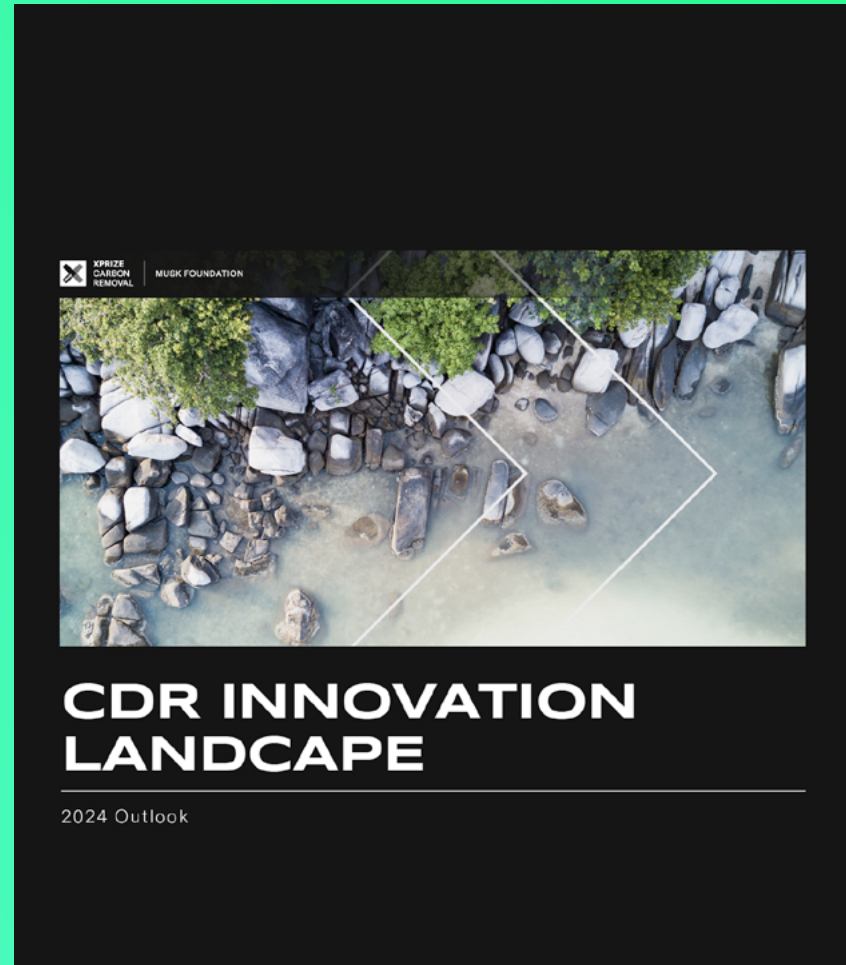
CDL XPRIZE Carbon Removal Cohort Highlights

- **100 teams invited** from the Top 100 cohort of the competition
- **24 teams participated**
- **568 mentor meetings** delivered across the cohort
- **49 expert mentors** engaged from CDL’s global network
- **5 core accelerator sessions** combining small-group reviews and large mentor feedback forums
- **3 XPRIZE finalists and 2 prize winners** participated in the program

Beyond CDL, XPRIZE collaborated with a broader ecosystem of accelerators and venture development programs from the beginning of the competition. Partners such as [AirMiners](#), [Ocean Visions Launchpad](#), [Remove](#), [Urban Future Lab’s Carbon to Value Initiative](#), and [Avatar Innovations](#) provided mentorship, commercialization support, and ecosystem connectivity for competing teams. Together, these partnerships strengthened the bridge between scientific discovery and market deployment, helping emerging carbon removal companies refine their business models, engage investors, and accelerate pathways toward gigatonne-scale impact.

These acceleration partnerships complemented the competitive structure of the prize itself—helping transform early-stage scientific ideas into investable ventures capable of attracting the capital required for gigatonne-scale carbon removal.





XPRIZE CARBON REMOVAL CDR INNOVATION LANDSCAPE

XPRIZE CARBON REMOVAL GETTING TO GIGATONNE

XPRIZE CARBON REMOVAL FROM SCIENCE TO SCALE



2022 CIRCULAR CARBON MARKET REPORT

2023 CIRCULAR CARBON MARKET REPORT

2024 CIRCULAR CARBON MARKET REPORT

Tracking Industry Growth

Prior to 2020, carbon removal was still considered a nascent area of climate tech, largely dominated by lab-scale research & development. When the XPRIZE launched in 2021, with a bold challenge to remove a kilotonne of CO₂ (1,000 net tonnes) from the air or ocean, it helped catalyze a wave of explosive growth and company formation focused on deploying first-of-akind pilots across many new carbon removal pathways.

Kilotonne-scale removal represents a critical inflection point between laboratory innovation and commercially viable megatonne-scale carbon removal projects. By requiring teams to demonstrate 1,000 net tonnes of CO₂ removed, the XPRIZE helped define this benchmark for the emerging carbon removal industry and mobilized innovators, capital, and policy attention around a shared proof-of-scale milestone. Through the competition and parallel analysis of industry data, XPRIZE also tracked how the field evolved during the prize, documenting progress toward the ultimate goal of building a gigatonne-scale carbon removal industry.



XPRIZE site visit to Ebb Carbon's facility in San Francisco, CA.

Research & Development Effort

Mobilizing Unprecedented R&D at Scale

Data reported by the Top 100 Teams announced in 2024 show that competitors collectively invested:

5,809,507

R&D hours developing solutions for the competition

Using a conservative sector median wage equivalent (\$115,000 annual salary / \$55.29 per hour), this represents¹:

\$321,207,642

in R&D labor value

When compared to the \$100M prize purse, this investment alone represents a **3x return on innovation**—in that the \$100M prize purse helped to catalyze over \$300M in R&D in the space. This underscores how the structure, incentives, and global visibility of the XPRIZE model mobilized an unprecedented level of coordinated, mission-driven R&D that may not have occurred otherwise.

1. Median annual salary estimate based on U.S. Bureau of Labor Statistics data for engineers and physical scientists; Occupational Employment and Wage Statistics, 2024. <https://www.bls.gov/oes/>



Cross-Industry Collaboration

A key innovation outcome of the prize was its ability to catalyze cross-industry collaboration—bringing together actors that would not typically operate within the same value chain to address complex system-level challenges.

Beyond the breadth of collaborations observed across the cohort, the competition demonstrated a distinctive capacity to integrate carbon capture, transport, and durable storage pathways. Several Top 20 Finalists emerged as multi-party partnerships linking atmospheric capture with permanent sequestration, including Heirloom’s collaboration with CarbonCure, which paired direct air capture (DAC) with mineralization in concrete, and Project Hajar’s partnership between 44.01 and AirCapture, combining DAC with in-situ mineralization in peridotite formations. Similarly, Airhive and Skyrenu, two of the Top 20 Finalists, partnered with DeepSky as their sequestration provider. Together, these collaborations illustrate how the prize model encourages the formation of interoperable, cross-sector ecosystems—an essential ingredient for scaling durable carbon removal beyond isolated technologies.





Next Generation of Innovators

Student Competition

XPRIZE Carbon Removal intentionally cultivated future talent through a dedicated **Student Competition Track**, requiring that at least 50% of each qualifying team be actively enrolled students to ensure meaningful participation by emerging scientists and engineers. These awards accelerated student teams from academic research into applied, real-world carbon removal innovation while helping cultivate the next generation of leaders driving innovation in the carbon removal sector.

The results were tangible: three Student Winners (Takachar, Skyrenu, and PlantVillage) advanced to become Milestone Winners; two (Skyrenu and Takachar) progressed to Finalist status; and seven Student Winners ranked among the Top 100 Teams entering the Phase 2 Final Round—demonstrating that early investment in student-led innovation translated into competitive technical performance at the highest levels of the competition.



Takachar Student Team Winner, Milestone Winner, and Finalist.

Student Competitors | **857**

Student Teams | **195**

Countries | **44**

Student Awards | **23**

Prizes Awarded | **\$5M**

Academic Insitutions | **186**





Student Team Spotlight: Holocene

Holocene, one of the XPRIZE Carbon Removal student track winners, exemplifies how early-stage recognition and support can catalyze rapid innovation and market impact.

Founded by a team of Stanford graduate students, Holocene developed a novel approach to Direct Air Capture (DAC) that impressed the Judges. After winning a Student Award, the team continued to refine its technology and business model, gaining traction within the carbon removal ecosystem. In a landmark moment for the prize's legacy, Holocene was acquired by Occidental Petroleum (Oxy) in 2025 to accelerate the oil and gas company's climate-tech portfolio—one of the first major acquisitions of a student-founded carbon removal venture. The acquisition signals growing confidence in next-generation technologies born from XPRIZE competitions, and highlights how student participation is not merely academic, but can lead to transformative climate entrepreneurship at the highest levels of industry.



Patent Generation

Accelerating the Pace of Innovation

Using third-party data from PitchBook Data, Inc., 69 out of 160 prize-participating companies with active profiles were identified as having at least one active or pending patent.² This subset, drawn from the broader pool of 332 Qualified Teams, provides a powerful lens into the prize's effect on intellectual property creation in the carbon removal space.

Prior to the competition, these teams collectively filed **1,034 patents over a 50-year span (1971–2021)**. During the four-year prize period alone (2021–2025), they filed **875 additional patents**—a nearly tenfold increase in the **annual rate** of innovation, representing a **+958% surge** in filings.

This explosive growth in patent activity demonstrates the catalytic nature of the XPRIZE model: by concentrating attention, capital, and competitive pressure on a global challenge, the competition unlocked a wave of novel, protectable technologies. In just four years, teams accelerated innovation at a pace that would have otherwise taken decades—showcasing how prizes can de-risk bold ideas and fast-track them into the real world.

² PitchBook Data, Inc. Accessed December 20, 2025. Data has not been reviewed by PitchBook analysts.



XPRIZE site visit to Applied Carbon's biochar operations in Texas.



Research Publications & Scientific Influence

The XPRIZE Carbon Removal competition generated a powerful research footprint both through the scholarly output of qualified teams and the broader academic engagement it inspired.³

721

Peer-reviewed publications, conference papers, and books referencing the prize or authored by participating team leads

23,278

Cited more than 23,200 times by 2026

These publications:

- Accelerated new scientific fields
- Validated emerging carbon removal technologies
- Shaped academic curricula and public policy

The XPRIZE Carbon Removal competition created an open innovation ecosystem—where ideas were shared, tested, and expanded, often by researchers who never competed directly. This is the multiplier effect of a well-designed incentive competition: **innovation that continues long after the prize is awarded and beyond the teams themselves.**

³ Data as of March 6, 2026, consisting of a keyword search of the Scopus database for publications produced by Qualified Team members explicitly referencing “XPRIZE Carbon Removal” or “Carbon Removal”. These data reflect both direct academic engagement with the prize and the scholarly output of participating teams.



XPRIZE site visit to Kelp Blue in Lüderitz, Namibia.



THE CARBON REMOVAL XPRIZE CHANGED HOW VAULTED BUILDS AND SCALES MEASURABLE INFRASTRUCTURE.

Its technical rigor set the bar for the diligence needed to earn trust from investors as we raised our Series A and from customers signing long-term offtake agreements. The competition pushed us to design our systems, data, and verification for real-world use and to think at gigatonne scale from the start.

Bryan Epps, Vaulted Deep
Head of Commercialization



Awareness



Elevating Carbon Removal from Emerging Concept to Global Priority

Advancing carbon removal at the scale required to significantly curb climate change requires not only technical progress and capital but broad public, market, and policy awareness. Through sustained global media coverage and storytelling, the XPRIZE Carbon Removal competition helped elevate carbon removal from a niche scientific concept to a visible, credible climate solution, accelerating engagement across investors, industry leaders, policymakers, and the public.



Global Recognition of Carbon Removal Innovation

Over the course of the competition, the prize generated 14,012 media mentions, reaching a global audience of 31.8 billion impressions. Using press ad equivalency as a conservative proxy for value, this visibility represents \$261.5 million in earned media exposure, equating to a 2.6x Prize-Purse Return on Investment relative to the \$100M purse.

14,012

Media Mentions

31.8B

Impressions

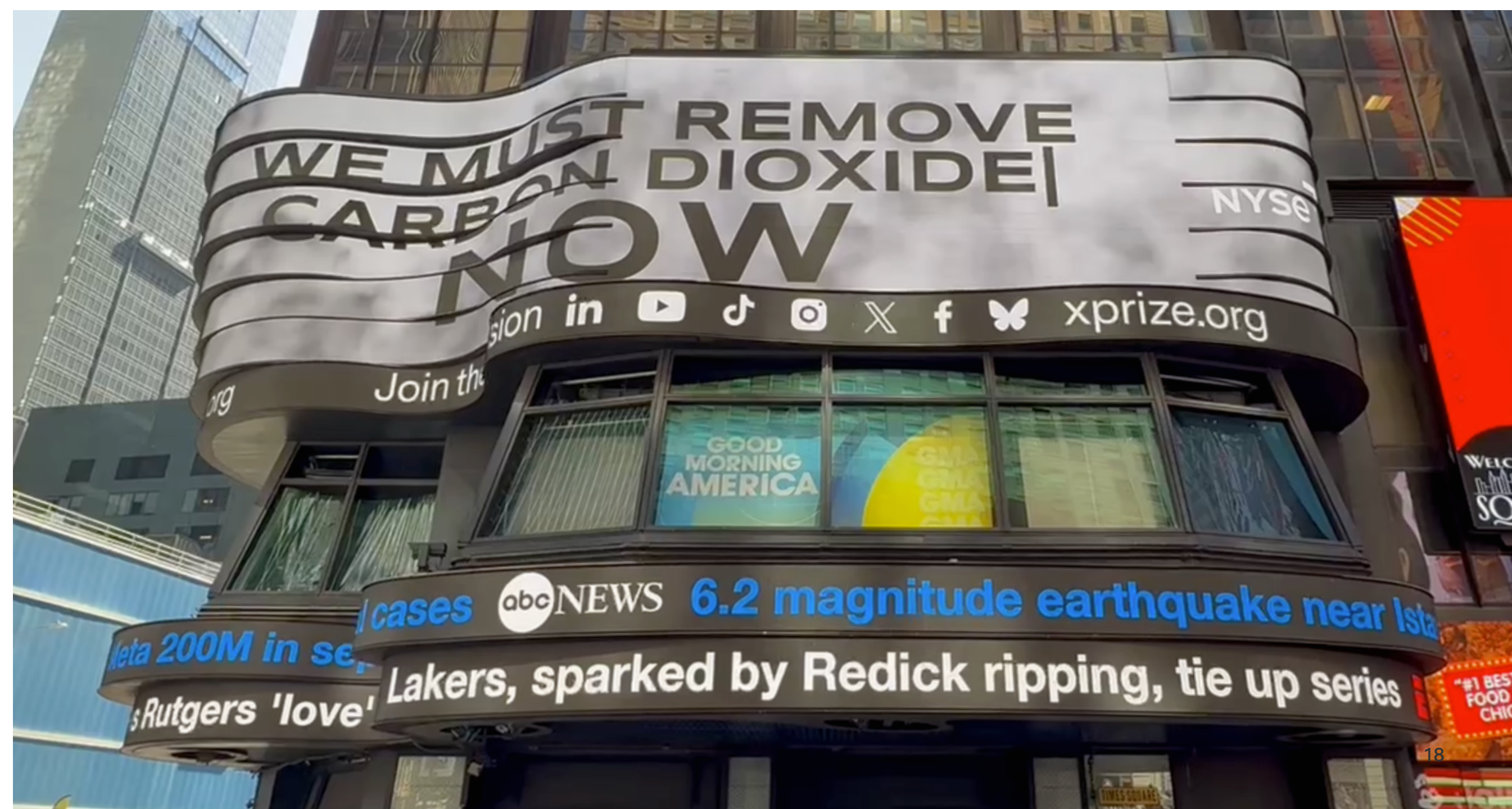
\$261.5M

Press-Ad Equivalency

Several high-profile moments during the competition further amplified global awareness. XPRIZE announced the winners of the competition during New York Climate Week at iconic venues including the New York Stock Exchange, signaling the growing intersection of carbon removal with global capital markets, and a major TIME convening that brought together global leaders across business, policy, and media. These milestone events helped elevate carbon removal into mainstream climate and economic conversations, reinforcing the sector’s legitimacy and visibility at the highest levels of global leadership.

As a breakout of this aggregate impact, the April–October 2021 competition launch alone generated 543 media mentions, 6.08 billion impressions, and \$56.5 million in earned media exposure—highlighting the scale of early momentum without double counting against total competition metrics.

This awareness impact amplified the credibility of competing teams, expanded the ecosystem of stakeholders engaged in carbon removal, and helped create the narrative momentum necessary for capital formation, policy attention, and long-term market adoption.





**OUR XPRIZE WIN DRAMATICALLY
ELEVATED GLOBAL AWARENESS
OF MATI AND ENHANCED ROCK
WEATHERING, POSITIONING IT AS A
SCALABLE, HIGH-IMPACT CARBON
REMOVAL PATHWAY.**

The recognition has enabled us to expand deployments, secure long-term partnerships, and deepen policy, institutional, and research engagements.

Shantanu Agarwal, Mati Carbon
CEO and Founder



Technology Readiness & Validation



From Lab to Gigatonne: Advancing Deployable Solutions

Solving climate change requires carbon removal solutions capable of achieving gigatonne-scale impact—not just once, in controlled conditions, but repeatedly and reliably in the real world. From day one, the XPRIZE Carbon Removal competition was designed to identify technologies that could meet near-term performance targets as well as elevate those with a credible pathway to large-scale deployment in the years ahead.

To achieve this, XPRIZE implemented rigorous, third-party validation rooted in clear, science-based criteria. Teams were assessed not just on how much CO₂ they could remove, but on how well their solution could scale—economically, operationally, and geographically. This approach reduced uncertainty for investors, buyers, and policymakers, while helping to channel resources toward the most promising and scalable climate solutions of the future.

XPRIZE site visit to Lithos' ERW operations in North Carolina.



Expert-Led Technical Review

A key element of the XPRIZE model is the role of a highly qualified, independent Judging panel that reviews technical progress over the life of the competition and determines all final award decisions. The XPRIZE Carbon Removal competition had a panel of 15 Judges with diverse technical backgrounds across all areas of carbon removal. During the Milestone Round of the competition, an additional [70 expert technical reviewers](#) supported the Judging Panel on the first round of review across hundreds of submissions that came in.

Over the course of the competition, Judges and expert reviewers devoted **6,440 hours** to evaluating team submissions, reviewing data, and assessing performance across the key competition evaluation categories: operations, sustainability, and cost. Using a conservative median annual salary of \$150,000 for carbon removal experts,⁴ these judging hours represent approximately **\$465K in expert labor value**—a substantial contribution of independent technical validation mobilized through the prize model.

EXPERT JUDGES

Carl Bozzuto	Independent Consultant
Dr. Lola Fatoyinbo	Remote Sensing Ecologist
Whitney Jones	Associate Director, Rhodium Group
Dr. Holly Krutka	Executive Director, University of Wyoming School of Energy Resources (SER)
Jamey Mulligan	Senior Scientist, Amazon
Dr. Yiwon Pan	Associate Professor - Ocean College Zhejiang University
Dr. Peter Psarras	Research Assistant Professor, Chemical and Biomolecular Engineering and Energy Policy University of Pennsylvania
Dr. Andrea Ramirez	Professor, Delft University of Technology
Dr. Phil Renforth	Associate Professor, Heriot-Watt University Research Centre for Carbon Solutions
Dr. Jessica Strefler	Senior Scientist, Potsdam Institute for Climate Impact Research (PIK)
Dr. Chris Verlinden	Chief Technology Officer, Applied Ocean Sciences LLC
Wilson Smith	Professor of Chemical Engineering, University of Colorado Boulder
Dr. Jane Zelikova	Executive Director, Sustainability Research Initiative, University of Colorado Boulder
Angelos Kokkinos	Retired Associate Deputy Assistant Secretary for the Carbon Management Office in the Office of Fossil Energy & Carbon Management, Department of Energy
Daniel L. Sanchez	Assistant Professor of Cooperative Extension, Carbon Removal Lab



4. Median annual salary estimate based on U.S. Bureau of Labor Statistics data for expert engineers and physical scientists; Occupational Employment and Wage Statistics, 2024. <https://www.bls.gov/oes/>



Testing and Validation

In addition to expert judging time, XPRIZE designed and managed a robust verification program to evaluate the Finalists. This included:

- 1** Hiring carbon market verification companies to conduct independent, third-party reviews for all Finalists across operational performance, sustainability, and cost metrics.
- 2** Conducting in-person site visits to the demonstration project locations for all Finalists with the independent verification teams to validate performance data in real-time.
- 3** Convening the independent Judging panel in-person at every stage of the competition to review performance data and deliberate outcomes.

Collectively, these activities represent an additional **\$3,420,370 USD** invested in testing and validation moments throughout the competition. When combined with expert judging hours, this totals **\$3,880,000 USD** mobilized toward independent technology validation. Rather than serving as direct prize capital, this investment played a critical enabling role—concentrating scarce technical expertise and structured evaluation around clear performance milestones. In doing so, the XPRIZE model translated competition capital into credible signals of technology readiness, accelerating progress from concept toward deployment while meaningfully reducing technical and market risk for downstream capital and adoption.

From Science to Scale

Following the completion of field testing and judging for the 20 Finalists, [XPRIZE, in collaboration with BCG, published a Report in 2025](#) analyzing the scaling trajectories for this cohort of leading CDR companies each racing to go from kilotonne-scale to megatonne-scale in the next 5-10 years. Despite the wide variety in CDR approaches, the data showed their strategies all revolve around a common set of elements to expand capacity and reduce costs:

FUTURE TECHNOLOGY ADVANCEMENT:

Developing novel materials or engineering designs

SCALING:

Building larger operations, plants, or components to achieve economies of scale

MODULARITY:

Using standardized, repeatable units to lower costs through learning-curve benefits

PROCESS OPTIMIZATION AND AUTOMATION:

Finding efficiencies in industrial systems, optimizing operational processes, and automating management of processes

ALTERNATIVE REVENUE STREAMS:

Generating income beyond carbon removal revenues to cross-subsidize and/or reduce the credit sale price



**THE XPRIZE CARBON REMOVAL
COMPETITION CREATED A RIGOROUS
ENVIRONMENT OF VALIDATION AND THIRD-
PARTY SCRUTINY THAT ACCELERATED OUR
PATH TO TECHNICAL READINESS.**

Undergoing XPRIZE's MRV protocols in parallel with an audit by Isometric challenged us to refine our systems, clarify our methodology, and validate our claims to the highest standards. In carbon removal, the ability to generate a credit depends entirely on verification—XPRIZE helped transform our intangible promise into a certified, investable asset. That kind of credibility doesn't just build trust with regulators and buyers—it shapes markets.

Mike Kelland, Planetary Technologies
CEO



Real-World Carbon Removal Outcomes

Ultimately, the success of carbon removal innovation must be measured by real-world climate impact. Over the course of the XPRIZE Carbon Removal competition, the 136 Distinguished Teams (including Student Winners, Milestone Round Top 60 Teams, Phase 2 Top 100 Teams, and 20 Finalists) collectively **removed 243,552 tonnes of CO₂** and **sold 9,475,438 tonnes of carbon credits** (inclusive of future deliveries of tonnes removed).⁵ This represents an estimated value of **\$1,946,642,150 credits sold**,⁶ reflecting early market uptake and buyer willingness to pay for durable, high-quality carbon removal.

243,552

Tonnes of CO₂ Removed

9.5M

Tonnes of Credits Sold

\$1.9B

Value of Credits Sold

While these volumes remain early relative to the long-term gigatonne-scale ambition of the prize, they represent critical proof points: validated tonnes removed, credits transacted, and real systems operating beyond the lab. These outcomes demonstrate the transition from innovation to commercialization—laying the foundation for scale as technologies mature, costs decline, and demand continues to grow.

Looking ahead, these early deployments represent only a fraction of the projected deployment pipeline, with teams collectively striving to remove gigatonnes of CO₂ by 2050 as their technologies mature, costs decline, and long-term offtake agreements come online.

5. Data was sourced from the <https://www.cdr.fyi/leaderboards> on 1.14.26 and covers 2019-2025, which largely overlaps with the duration of the prize. In addition to the 136 Distinguished Teams, this also includes data from 7 additional XPRIZE Carbon Removal Registered Teams that did not receive special recognition during the prize, but appeared within the Top 50 Leaderboards for Tonnes Delivered (Graphyte, Wakefield, Andes, Carbon Cycle) and Credits Sold (Graphyte, Wakefield, Carbon Capture Inc, Crew, Eion).

6. Pricing data was pulled from <https://www.cdr.fyi/blog/2025-durable-cdr-pricing-survey> conducted by CDR.fyi and OPIS, a Dow Jones Company, and references the self-reported “good value purchaser data” for buyer expectations in 2025.



XPRIZE site visit to NetZero's biochar operations in Lajinha, Brazil.

\$ Capital & Market Formation Impact



Scaling carbon removal solutions requires more than technical success—it requires capital capable of moving technologies from demonstration to deployment.

The XPRIZE Carbon Removal competition catalyzed this transition by de-risking innovation and accelerating investment, driving significant capital formation, larger and more mature funding rounds, stronger outcomes for advanced cohorts such as prize finalists, and meaningful job creation across the sector.



Capital Mobilization

The XPRIZE Carbon Removal competition catalyzed a dramatic acceleration of private capital into its competing teams. During and following the prize period, participating companies raised \$3.3B in capital—**representing a 33x Prize-Purse Return on Investment relative to the \$100M purse**. Of the Qualified Teams that participated, 161 were identified as having active company profiles in PitchBook. Of those, 128 companies had confirmed funding deal data, which formed the basis for this capital analysis. This sample represents a substantial share of the ecosystem and offers a strong window into how the prize influenced venture formation, deal flow, and investor confidence.

Fundraising Activity

PRE PRIZE

185

Deals

\$287.5M

Raised

13

Years

DURING + POST PRIZE

456

Deals

\$3.3B

Raised

4

Years

Investor Summits

XPRIZE also organized two large-scale investor summits in collaboration with financial sector partners to facilitate direct investor engagement with carbon removal start-ups. In 2023 XPRIZE co-hosted the Carbon Negative Conference 3.0 with Credit Suisse, followed by the 2024 Carbon Removal Capital Summit hosted in collaboration with Santander Bank. Both events convened over 600 key stakeholders and supported deal flow for the broader emerging industry.





Deal Size & Investor Confidence

XPRIZE’s structured milestones and third-party validation strengthened investor confidence, driving both an increase in average deal size and a sharp rise in the number of unique investors backing competing teams.

These trends across the 128 teams with third-party data in PitchBook reflect how XPRIZE’s validation framework, milestone structure, and global credibility didn’t just attract more capital—they fundamentally shifted investor behavior and de-risked an emerging sector.

Average Deal Size⁷

\$2.26M

Pre-Prize

\$12.75+M (+464%)

During + Post-Prize

Unique Investors⁸

220

Pre-Prize

608 (+176%)

During + Post-Prize

Buyer Adoption & Market Demand

Market confidence was further reinforced by early buyer adoption. Multiple finalist teams secured carbon credit purchases or commercial engagements from repeat buyers—including Microsoft, Google, Salesforce, Stripe, Shopify, Meta, McKinsey, BCG, JP Morgan and others—signaling emerging demand convergence around leading carbon removal pathways.



7. PitchBook Data, Inc. Accessed December 20, 2025. Data has not been reviewed by PitchBook analysts.

8. PitchBook Data, Inc. Accessed December 20, 2025. Data has not been reviewed by PitchBook analysts.



Catalyzing Market Infrastructure

XPRIZE also worked to strengthen connectivity, transparency, and capital flow across the broader industry through an initiative called the **Circular Carbon Network (CCN)**.

XPRIZE worked for a decade (2015-2025) to catalyze new market infrastructure for the emerging circular carbon industry. The Circular Carbon Network (CCN) was launched during the first NRG COSIA Carbon XPRIZE to curate market intelligence and support deal flow for carbon conversion and point-source capture technologies. In 2021, the effort was expanded to also cover carbon removal pathways. Tools such as the CCN Innovator Index, Capital Index, Catalyst Index, and an investor Deal Hub were created to connect and educate solution developers, investors, corporates, and ecosystem partners. Annual Market Reports were also published to track the growth and evolution of the circular carbon industry. By lowering information barriers and improving market visibility, CCN supported investment decision-making and accelerated sector maturation.



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LIST



Job Creation

Beyond capital formation, the competition's impact extended into workforce growth as competing teams built the organizational capacity required to advance and scale their solutions.

2,856

Net New Jobs Created

These figures represent a highly conservative estimate of new employment positions created by only a subset of 161 prize-participating companies with verified PitchBook profiles. For companies with missing employee data, sole proprietor ownership status was assumed and assigned a value of one employee—further underscoring the conservative nature of this analysis. Additionally, many competing teams were founded around or after the launch of the prize in 2021 and may not yet have PitchBook profiles or publicly available employee data, suggesting the actual workforce growth is likely significantly higher.

As technologies advanced and capital flowed, teams expanded their technical, operational, and commercial capacity—supporting thousands of skilled jobs globally. Based on 2,856 net new jobs and a conservative annual salary of \$115,000 (in line with BLS benchmarks for technical roles in climate and cleantech sectors), this growth translates to an estimated **\$328 million in annual labor impact.**⁹ XPRIZE remains committed to tracking this metric as teams mature, additional data becomes available, and the sector continues to grow.

9. Median annual salary estimate based on U.S. Bureau of Labor Statistics data for engineers and physical scientists; Occupational Employment and Wage Statistics, 2024. <https://www.bls.gov/oes/>





Deals by Cohort

Advancing through the competition—and particularly reaching finalist status—functioned as a powerful de-risking signal to funders and investors. All Finalist Teams secured external funding during or following the competition launch, including a combination of venture investment, grant funding, philanthropic awards, and prize capital.

Examining investment outcomes by competition stage reveals how validation gained through progression in the prize influenced capital formation and investor confidence. When comparing outcomes across cohorts, this validation effect becomes even clearer. This validation effect is reflected in the stark divergence between cohorts, with Qualified Teams increasing total capital raised by 842%, compared to a 6,731% increase among Finalist Teams.

Qualified Teams

Pre-Prize

156

Deals

\$277.45M

Total Raised

\$2.50M

Average Deal Size

During + Post Prize

356

Deals

\$2.61B

Total Raised

\$12.93M

Average Deal Size

+842%

Increase in Total Raised

Finalist Teams

Pre-Prize

29

Deals

\$10.10M

Total Raised

\$0.63M

Average Deal Size

During + Post Prize

100

Deals

\$689.93M

Total Raised

\$12.10M

Average Deal Size

+6,731%

Increase in Total Raised

Late-Stage Capital Outcomes & Liquidity Signals

In addition to accelerating early- and growth-stage investment, the XPRIZE Carbon Removal competition supported teams that progressed to late-stage capital outcomes—providing important liquidity and validation signals to the broader market.

During and following the prize period, three Top-100 Teams achieved notable exit events: BluSky Carbon, which completed an IPO in June 2024 at an approximate \$31.6M valuation; 8 Rivers (Calcite Carbon Removal), acquired by SK Materials for \$300M in March 2023; and Global Thermostat, acquired by Zero Carbon Systems in April 2024 for an undisclosed amount.¹⁰

These transactions demonstrate how XPRIZE validation, visibility, and milestone-based de-risking can position leading teams for strategic acquisitions and public markets—reinforcing capital recycling, investor confidence, and long-term sector formation.



10. PitchBook Data, Inc. Accessed December 20, 2025. Data has not been reviewed by PitchBook analysts.



Beyond Capital and Market Adoption

Beyond investment and market adoption, competing teams were recognized by leading global institutions including [TIME Magazine](#), [Forbes](#), the [Earthshot Prize](#), and the [Bezos Earth Fund](#), among others — reinforcing the competition’s role in shaping credible, high-impact climate solutions.





“PARTICIPATING IN XPRIZE ACCELERATED OUR THINKING. WINNING A MILESTONE AWARD RAISED OUR PROFILE. BECOMING A TOP 20 FINALIST VALIDATED ARCA AND OUR TECHNOLOGY.”

Capital raising involves a series of conversations about risk, and ultimately participating in the XPRIZE Carbon Removal competition de-risked Arca for investors. This enabled us to raise the capital we needed.

Sean Lowrie, Arca Climate
Head of External Affairs



Prize Purse ROI

In aggregate, the \$100M XPRIZE Carbon Removal competition has already generated an estimated **39x return on philanthropic investment**—equivalent to approximately \$3.9 billion in net impact catalyzed across capital mobilization, innovation, and global awareness.



This return is real, measurable, and immediate—captured just months after the prize concluded, as teams transitioned from experimentation to deployment and early commercialization.

Over the last 30 years, XPRIZE has seen that the **greatest impacts of our competitions often emerge years after the award**, as solutions scale, industries form, and long-term markets develop. Against that backdrop, achieving a 39x return within such a short window makes the impact of this prize particularly exceptional.

Importantly, this 39x figure should be seen as a **floor, not a ceiling**. As winning teams continue to raise capital, secure offtake agreements, and expand commercial operations, the downstream effects catalyzed by the competition are expected to grow exponentially. At the time, as the largest prize purse in XPRIZE history—and one of the most ambitious technical challenges ever attempted—Carbon Removal is on track to become the highest-return competition in our portfolio, further proving that **outcome-driven philanthropic funding can deliver unmatched leverage in tackling global challenges**.







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Join a global community turning bold ideas into real-world impact—for people, planet, and generations to come.

Follow us on social media to be part of the movement and contribute to the conversation. Watch compelling stories about groundbreaking innovations and the people building them, and tune-into the world's foremost experts and thought leaders who are propelling us toward a better tomorrow.

Contribute

The work we do wouldn't be possible without the contributions of people like you. We offer a number of ways in which you can partner, sponsor, or donate to our foundation. To learn more, email us at getinvolved@xprize.org

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