



2024

Climate Report

Introduction

Shopify believes entrepreneurship is a driving force for our planet. That's true for commerce—and it's true for climate.

Every year, we deploy millions of dollars to support climate entrepreneurs building solutions to future-proof our planet.

In 2024, we made \$37 million in carbon credit purchases, bringing our cumulative contracted purchases to \$94 million across 54 entrepreneurial, early-stage suppliers.

No doubt, 2024 was a big year for climate at Shopify.

Shopify is committed to helping entrepreneurs start and scale their businesses, and we bring that same commitment to climate tech. We make early purchases from innovators building technologies that could play a meaningful role in avoiding worst-case climate change.

These purchases help companies attract investment, land additional buyers, and scale their solutions to meaningful heights. Start, scale, repeat. It's our approach to commerce and it's our approach to climate.

Our merchants got into the act, too. Through the Shopify Planet app, our carbon-neutral shipping app, Shopify brands generated 24 million carbon-neutral shipments in 2024 and used carbon removal to address more than 15,000 tonnes of emissions.

Our 2024 Climate Report highlights entrepreneurs committed to finding climate solutions.

First, we'll unpack the Shopify Sustainability Fund, look at the performance of our portfolio, and update you on the progress of a few Sustainability Fund suppliers.

Importantly, we'll also provide a snapshot of the carbon removal industry. Shopify has had a front row seat to carbon removal since launching the Sustainability Fund in 2019. As you'll see, we are thrilled by the progress we've seen from the innovators flooding into the space. At the same time, we know it'll be a monster effort to achieve gigatonne-scale results.

Next, we'll look at some of the incredible Shopify brands making a difference with the Shopify Planet app, along with the carbon removal suppliers powering carbon-neutral shipping for our merchants.

The final section explains our carbon-neutral operations commitment and provides an overview of how we used carbon removal to neutralize our 2024 emissions.

We invite you to see how Shopify is turning entrepreneurial power into climate progress.

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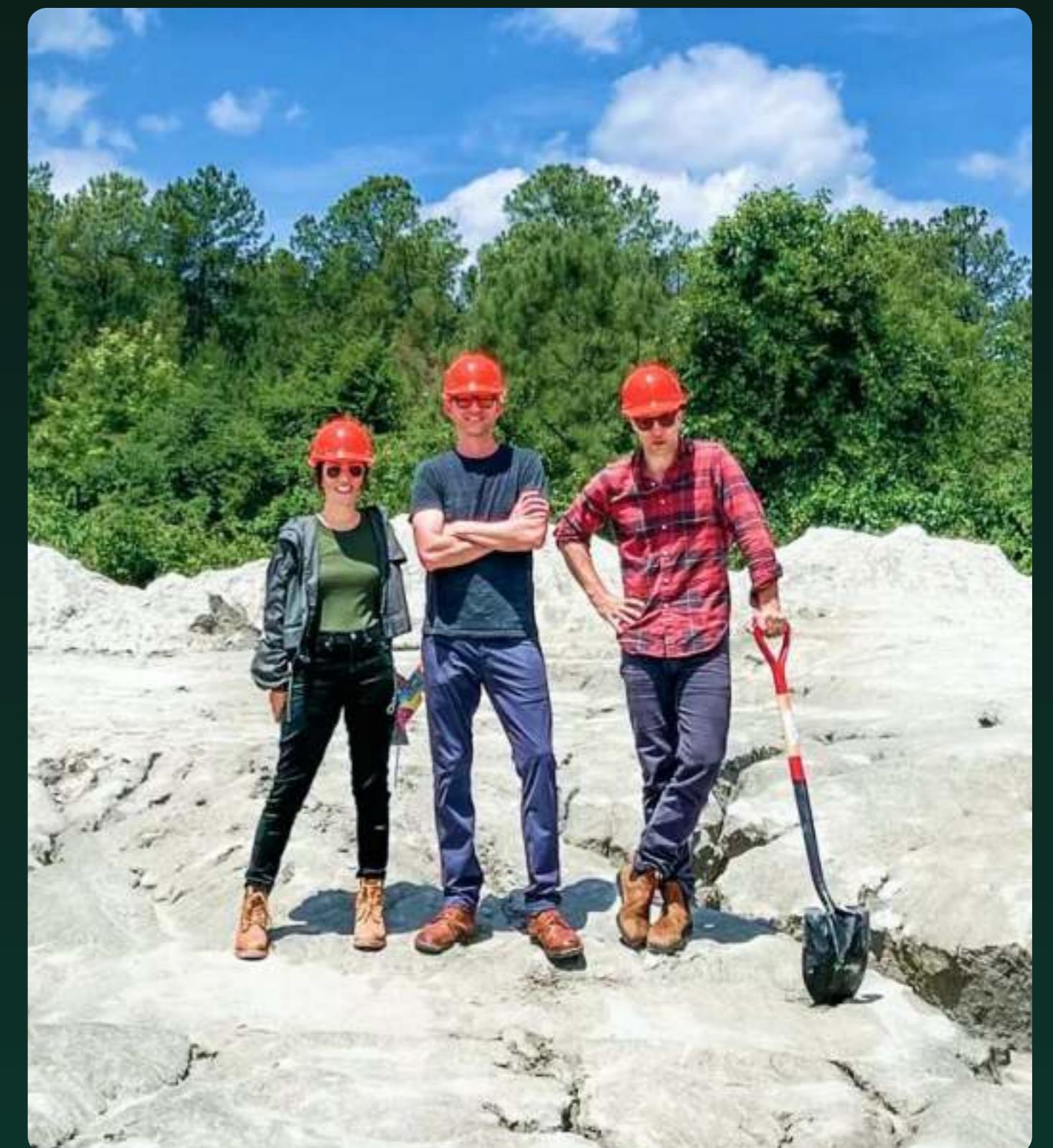
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Shopify's Carbon-
Neutral Operations

Shopify Sustainability Fund

The Shopify Sustainability Fund supports climate entrepreneurs developing breakthrough technologies to remove carbon dioxide from the atmosphere or prevent its release in the first place. As part of this effort, we are a founding member of Frontier, an advance market commitment to purchase an initial \$1 billion of permanent carbon removal by 2030.



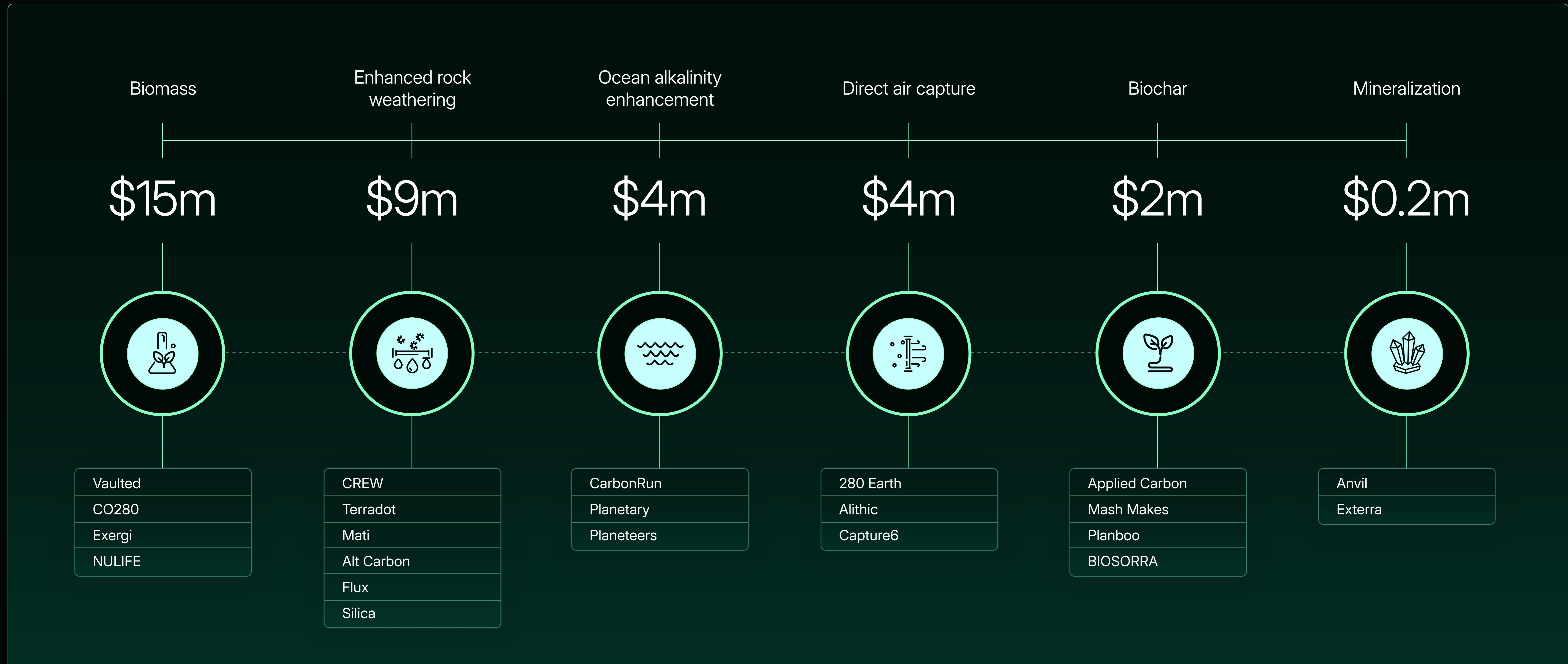
Key Metrics

In 2024, we made carbon credit purchases totalling \$37 million, bringing our grand total contracted to \$94 million across 54 exciting suppliers. Specific to durable carbon removal (CO₂ stored for 100+ years), our portfolio more than doubled year-over-year to reach 193,000 tonnes.



Purchase Breakdown

In 2024, we made 23 durable carbon removal purchases, with 22 of these shown below. We also partnered with AirMiners' Kiloton Fund to support early-stage startups. These purchases span all major carbon removal pathways, with the most dollars committed to biomass-based and enhanced rock weathering projects—where we found the most commercial-ready opportunities in 2024.



Portfolio Progress

It was a big year for Shopify Sustainability Fund portfolio companies. From the US to the UK to Germany, and from biomass to mineralization to direct air capture (DAC), here is a closer look at a handful of portfolio companies that took major strides in 2024.



44.01

At 44.01, we are pioneering mineralization technology to turn CO₂ into rock. We made significant progress in 2024, successfully piloting our technology in the UAE and mineralizing 10 tonnes of CO₂ in less than 100 days. Since then, we have scaled up UAE operations, and our project was named one of XPRIZE's Top 20 Carbon Removal projects.

44.01 also raised a \$37 million Series A, led by Equinor Ventures, and we are now looking to expand internationally. The rock we use for our mineralization projects is found on every continent, making this a truly international climate solution.

Early adopters like Shopify have been critical to demonstrating demand for 44.01's services, helping to attract investors and financiers for first of a kind projects.

Karan Khimji, Chief Commercial Officer

PHLAIIR

2024 was a landmark year for Phlair. We launched our pilot plant and raised \$15.2 million in seed funding, including a \$2.6 million grant from the European Union.

In 2025, we will start delivering DAC removal credits to our prepurchase customers—Shopify, Stripe, and Klarna. We will also advance the development of project Dawn, the world's first commercial DAC plant showcasing behind-the-meter solar integration.

We're advancing rapidly in developing and deploying our scalable and load-flexible DAC technology. This progress is made possible by forward-thinking buyers like Shopify, who support our mission to make DAC more cost-effective at scale.

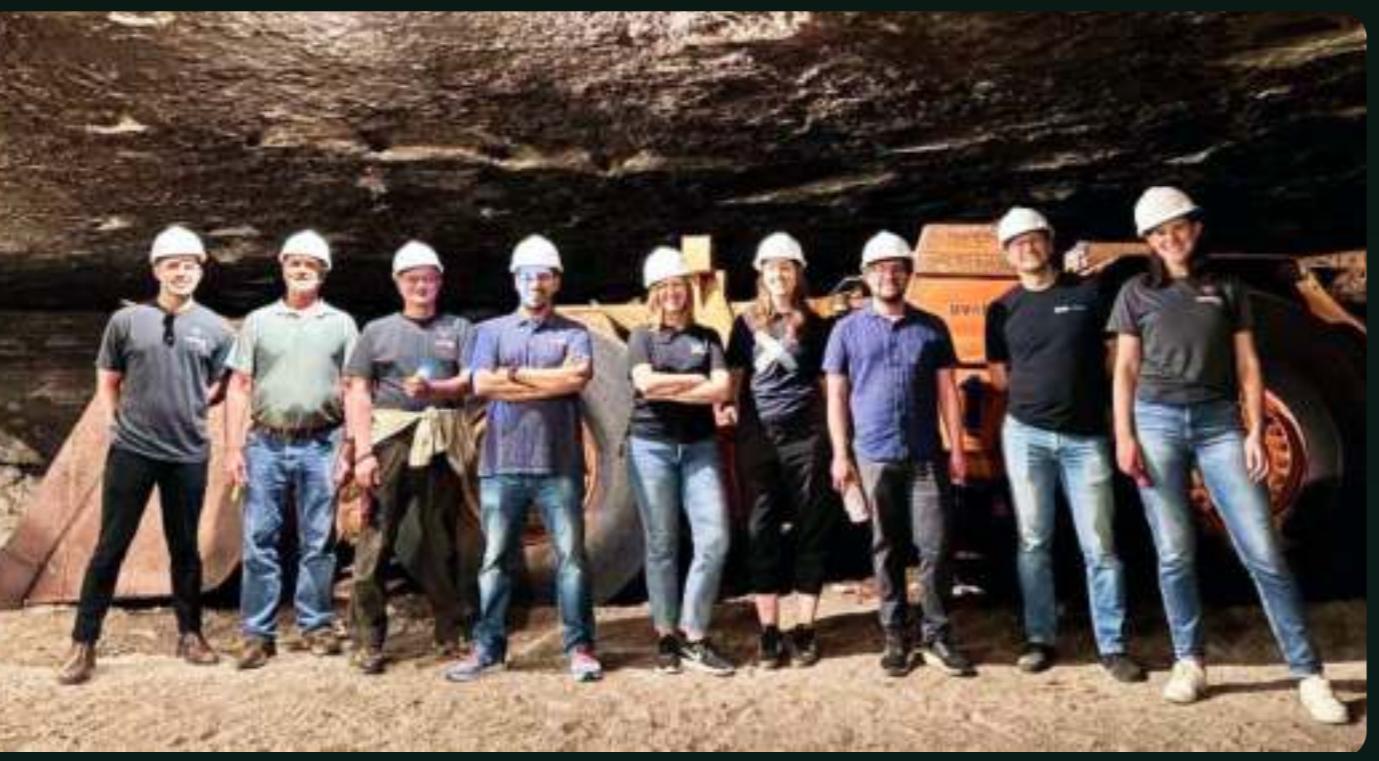
Malte Feucht, Founder and CEO

“

	Year of purchase: 2022	Deal size: \$490k	Carbon storage quantity (t): 3k
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	Year of purchase: 2023	Deal size: \$60k	Carbon removal quantity (t): 33
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Portfolio Progress



“ In 2024, Vaulted was laser focused on getting tonnes in the ground—we raced to generate 10,000 tonnes of carbon removal at our Great Plains facility in Hutchinson, Kansas, which we opened as our first site in late 2023.

Last year we secured \$58 million in contracts with Frontier buyers, were finalists for the XPRIZE in Carbon Removal, and semifinalists for the Department of Energy's Carbon Dioxide Removal Purchase Pilot Prize. Our progress helped unlock our \$32 million Series A fundraise, which will fund our 2025 growth.

Shopify, as a cutting-edge carbon removal buyer, was pivotal in unlocking Vaulted's progress—generating demand for our carbon removal in 2024 and helping secure the equity funding we needed to put the pedal to the metal on growth.

Julia Reichelstein, Co-Founder and CEO



“ Funding from Shopify helped us launch our first DAC pilot at the beginning of 2024, the first of its kind in the United Kingdom. Promising results from lab and pilot testing led Airhive to be selected as a finalist in the XPRIZE in Carbon Removal—one of 20 finalists out of over 1,000 applicants.

Over the remainder of 2024, we designed and built our first commercial DAC system, which was installed in Alberta, Canada. In 2025, our key focus will be building our first standalone facility, which will be one of the largest DAC facilities in the world, capturing 10,000 tonnes of carbon dioxide from the atmosphere each year and permanently storing it underground.

We are always keen to partner with companies like Shopify that are interested in buying durable, high-confidence carbon removal.

Teresa Geruson, Commercial Lead

	Year of purchase: 2023	Deal size: \$6m	Carbon removal quantity (t): 17k
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	Year of purchase: 2023	Deal size: \$60k	Carbon removal quantity (t): 113
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Carbon Removal State of the Market

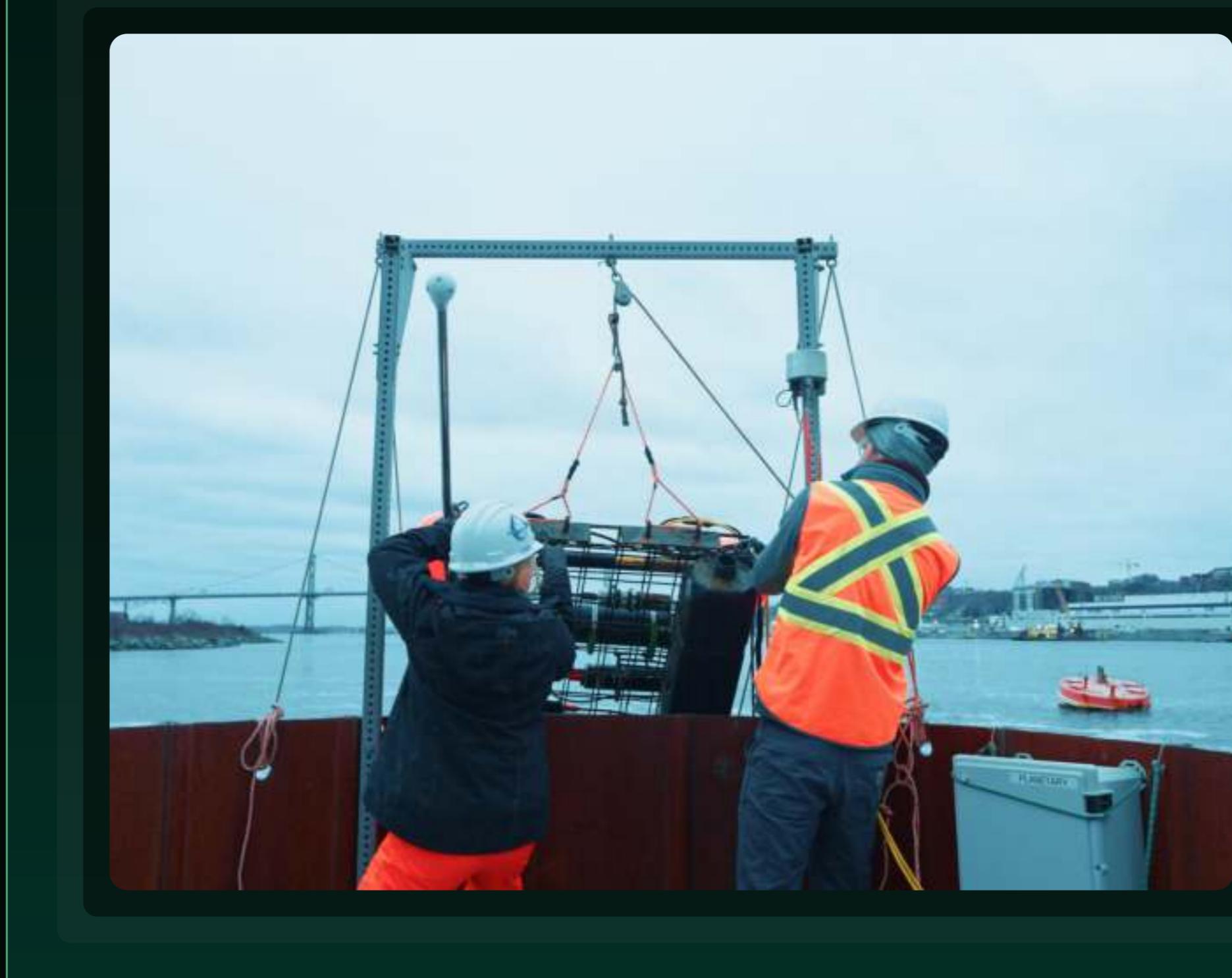
The carbon removal market strengthened in 2024. Previously challenging areas showed notable progress, with improved financing for pilot projects and new government procurement programs launching worldwide. Additionally, protocol development remained strong and the market continued to attract diverse new approaches. Yet as the market matures, key challenges have intensified. Growing project scale has highlighted critical needs for increased corporate purchasing, commercial financing, faster deployment, and expanded policy action.

In the following pages, we examine nine key indicators across technology, financing, and demand to provide a comprehensive view of the market's path to climate-relevant scale.

About This Assessment

Shopify's main goal when buying carbon removal credits is to create market demand, helping suppliers scale and drive down costs. Our position as one of the [world's leading buyers](#) gives us unique insight into the market. This assessment draws from our portfolio data, covering durable carbon removal suppliers only (those who store CO₂ for 100+ years).

Categories	Key Indicators	Progress in 2023	Progress in 2024	Priority for 2025
Technology	New approaches	⬆️ Strong	⬆️ Strong	● Low
	Technology de-risking	⬆️ Strong	➡️ Moderate	🟡 Medium
	Commercial-scale deployment	➡️ Moderate	➡️ Moderate	🔴 High
Financing	R&D funding	⬇️ Limited	➡️ Moderate	● Low
	Pilot-scale financing	➡️ Moderate	⬆️ Strong	🟡 Medium
	Commercial-scale financing	⬇️ Limited	⬇️ Limited	🟡 Medium
Demand	Corporate buyers	➡️ Moderate	➡️ Moderate	🔴 High
	Public policy	⬇️ Limited	➡️ Moderate	🔴 High
	Protocol development	⬆️ Strong	⬆️ Strong	● Low



Technology

New approaches

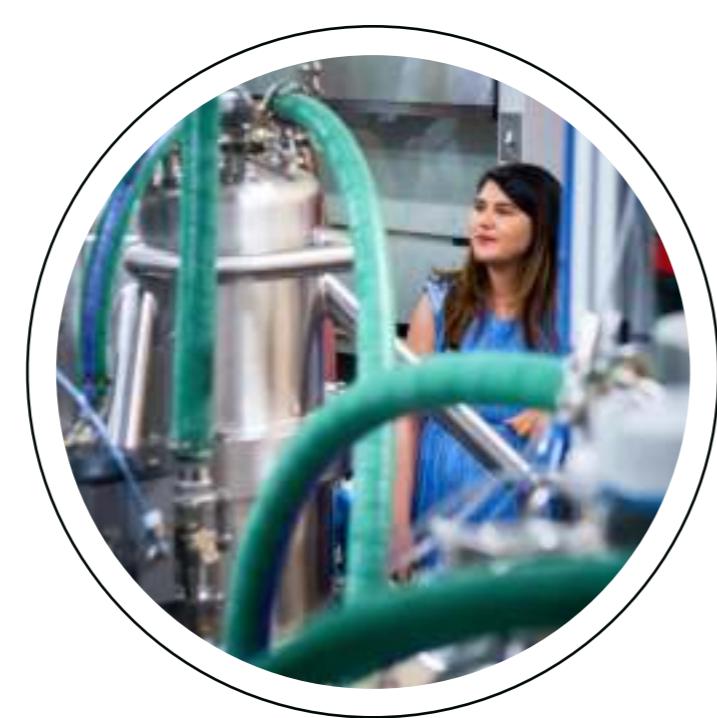


The carbon removal landscape is thriving with over [500 startups reported](#) in 2024. This means new entrants increasingly need to offer significantly more scalable and affordable solutions to grab the attention of catalytic buyers. While innovation continues to matter, the growing maturity of the field suggests buyers should balance their focus—accelerating established projects toward commercial viability while selectively supporting only the most promising new approaches.

Technology de-risking



Project delays increased dramatically across the market in 2024. Looking at our portfolio, 88 percent of suppliers are now behind schedule compared to 50 percent in 2023. Some of this relates to delays with technology de-risking. Suppliers aren't identifying deal-breaking technical issues, but rather small, surmountable challenges that take time to address. Each hurdle extends timelines for reaching pilot and ultimately commercial scale.



Commercial-scale deployment



Deployment challenges are causing delays as suppliers progress through pilot and towards commercial operations.

Looking at our portfolio, delays vary by pathway:

- DAC: CO₂ storage permits are taking longer than expected and suppliers are encountering unforeseen construction and commissioning challenges, pushing meaningful DAC carbon removal to 2027 at the earliest.
- Open system pathways (enhanced rock weathering [ERW], ocean alkalinity enhancement [OAE], etc.): These projects remain more on schedule, but are facing delays as they go through measurement and verification processes for the first time.

Despite these hurdles, 2024 delivered notable successes: 1PointFive stands as a potential exception to the DAC trend, making significant progress with both plant construction and storage permitting. Planetary produced the [first OAE credits](#) at their Halifax, Canada, site. ERW suppliers spread way more rock on fields than in 2023, and waste biomass injection leader Vaulted is [consistently removing carbon](#) at their site in Kansas, US. These success stories are encouraging examples from the field, and our portfolio data suggests a broader market trend of increasing carbon removal capacity, with 75 percent of our suppliers showing growth in 2024.

Project Timelines

88%

of portfolio suppliers behind schedule in 2024

↑ from 50% in 2023

Capacity Growth

75%

of portfolio suppliers increased capacity in 2024

↑ from 67% in 2023



Financing

R&D funding



R&D funding proved more resilient in 2024 than anticipated. Startups continued to secure capital to maintain operations, though many proceeded more cautiously with hiring and technology development than they might have preferred.

Since catalytic buyers remain intentionally selective, eventually the startups who can't prove their technology, or whose technology isn't impressive enough, will run out of money. Those that succeed on both fronts should continue to get the attention of these buyers and secure enough funding to progress.

Pilot-scale financing



Venture funding for pilot-scale technologies is thriving, with catalytic buyers playing a crucial role.

Key dynamics:

- Investors are selectively backing the most promising suppliers
- Buyers' extensive due diligence helps identify top performers
- Suppliers with buyer support attract significant investor interest
- Many funding rounds are oversubscribed

We saw numerous seed through Series B funding rounds in 2024, such as CREW's \$5.3 million seed round, 44.01's \$37 million Series A, and 280 Earth's Series B totalling \$50 million. On average, suppliers in our portfolio raised a notable 128 percent more in 2024 than in 2023.

Financing

128%

more raised in 2024
than 2023 on average
across our portfolio

Commercial-scale financing



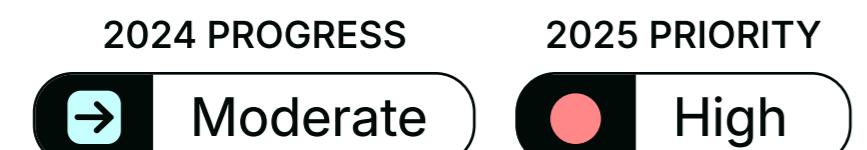
Commercial-scale financing has been upgraded to medium priority heading into 2025, as suppliers of highly engineered solutions like DAC are preparing to build their first large-scale facilities. These facilities are incredibly expensive to build and operate and will require the type of infrastructure capital used for other massive industrial projects, such as oil and gas facilities, power plants, and large manufacturing operations. Heirloom's impressive \$150 million raise suggests this type of financing may materialize, although it came largely from climate-focused venture investors.

Commercial-scale financing is less urgent for open system pathways like ERW, which operate with lower upfront capital requirements. While not necessarily optimal, these approaches can more easily rely on a combination of venture funding and revenue streams from credit deliveries.



Demand

Corporate buyers

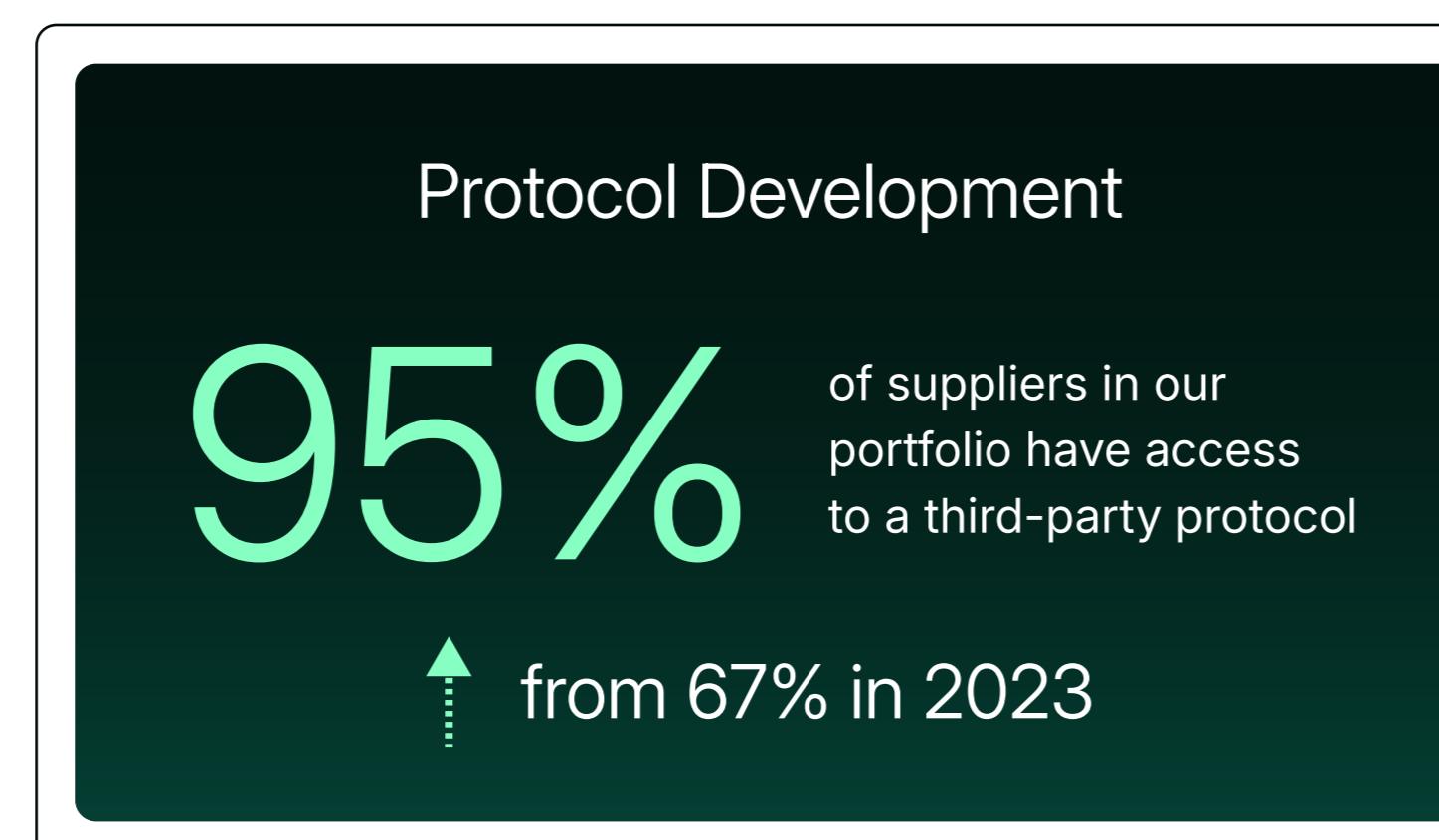
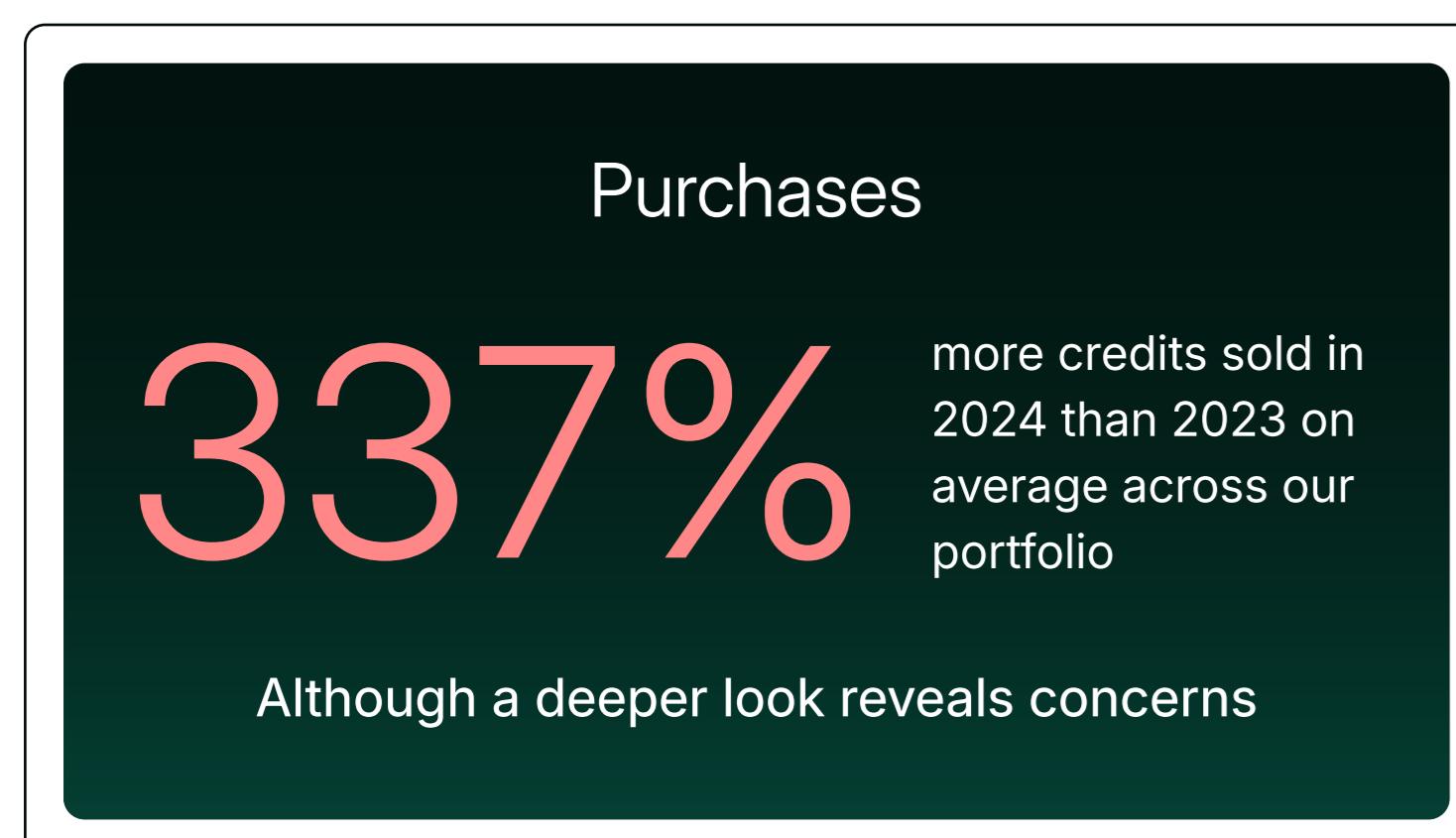


A lack of corporate buyers remains a significant challenge for the industry. While our portfolio suppliers achieved an impressive 337 percent average year-over-year growth in carbon credit sales, demand is still insufficient and concentrated among a small number of buyers.

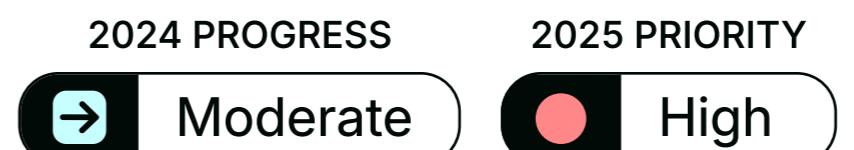
Pathway-specific implications:

- Engineered carbon removal (DAC, bioenergy carbon removal and storage, etc.): These pathways require massive purchase commitments to justify construction of their capital-intensive facilities and most suppliers are nowhere close to receiving this.
- Open system pathways: Suppliers are approaching the point where they may need to slow expansion due to insufficient purchases. Many are ready or nearly ready to scale, but without committed buyers, they cannot expand at their desired pace.

Running Tide's early ending serves as a cautionary example—the pace of purchases couldn't match their removal capacity. Other early movers are approaching similar territory. More corporate buyers appear willing to engage with engineered solutions, particularly DAC, as evidenced by broader corporate involvement with 1PointFive, Heirloom, and Climeworks. This is likely due to these suppliers' greater scale and perceived certainty of credit deliveries. Currently, catalytic buyers like Shopify and other Frontier buyers, Microsoft, and Milkywire remain the primary supporters of open system pathways, though British Airways' [support for CarbonRun and Planetary](#), and NextGen's [purchase from Alt Carbon](#) were promising developments in 2024.



Public policy



Government involvement in carbon removal policy expanded globally in 2024, extending beyond early US leadership with several promising new commitments:

- Canada introduced a [\\$10 million procurement program](#)
- Sweden officially launched its [reverse auction](#) for bioenergy with carbon capture and storage
- Denmark announced a [\\$166 million subsidy](#) for carbon removal

While this broader geographic engagement represents positive momentum, policy development at the current rate will not keep pace with the rapidly accelerating market needs. The voluntary market has been crucial in jumpstarting early projects and driving innovation. However, as projects transition to commercial scale with larger deployments and greater capital requirements, the policy gaps become more consequential. Only governments can mobilize the funding needed for climate-relevant scale, making public policy a critical focus area requiring dramatically expanded commitments in 2025.

Protocol development



Third-party protocols are becoming increasingly accessible across the carbon removal market. As of the end of 2024, 95 percent of suppliers in our portfolio had either selected a third-party protocol, were evaluating an available one, or were collaborating with a registry to develop one for their technology—up significantly from 67 percent in 2023.

This progress largely resulted from registry Isometric's work to dramatically expand their [protocol list](#) in 2024, adding protocols like Enhanced Weathering in Agriculture and Biochar Production and Storage. Isometric also achieved a major milestone by issuing the [first verified credits](#) for supplier Charm Industrial. Also of note, registry Puro.earth made significant strides, including [certifying the first DAC company](#) (Climeworks) under their standard.

These protocol advancements are very encouraging for the market, as most buyers require line of sight to a third-party protocol and verification before making a purchase. As a result, measurement, reporting, and verification is becoming much less of a concern for the industry than it once was.



Case Study: Running Tide

Running Tide, a Shopify Sustainability Fund portfolio company, ceased operations in mid-2024. But don't call it a failure.

"I know entrepreneurs say this all the time," says Running Tide founder Marty Odlin, "but I don't think we failed."

Launched in 2017, Running Tide raised more than \$50 million and grew to nearly 150 employees before shutting down in 2024. They pursued multiple ocean carbon removal pathways, including cultivating kelp to transport carbon to the ocean floor and sinking wood biomass.

At its height, Running Tide employed more than a dozen scientists and used cutting-edge monitoring technology to quantify their removal. As if measuring wasn't complicated enough, regulatory realities forced US-based Running Tide to deploy off the coast of Iceland.

“People aren’t quite aware of the magnitude of technical and operational and permitting development and market development that we did,” Marty says. “How complex it was, spanning countries.”

Marty Odlin

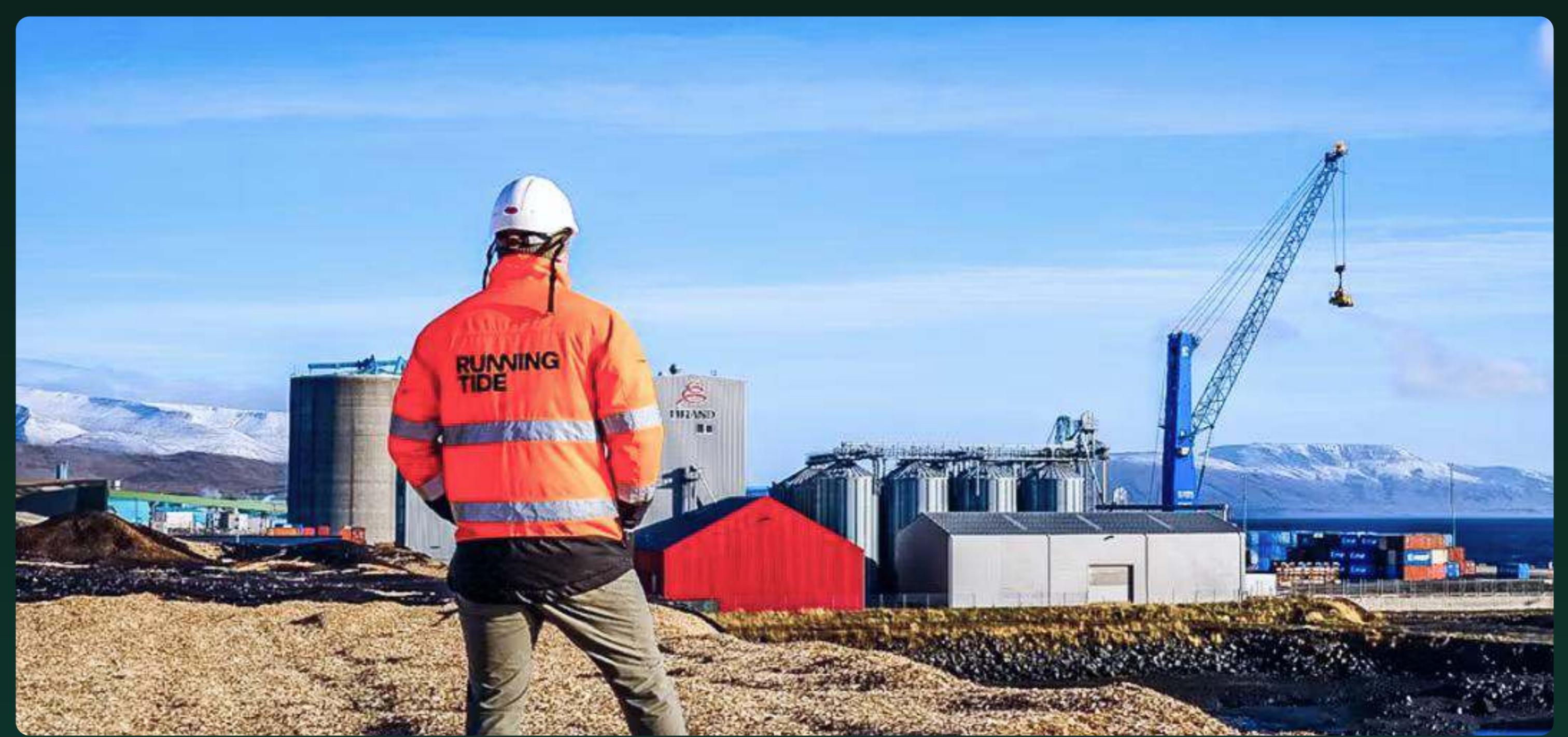
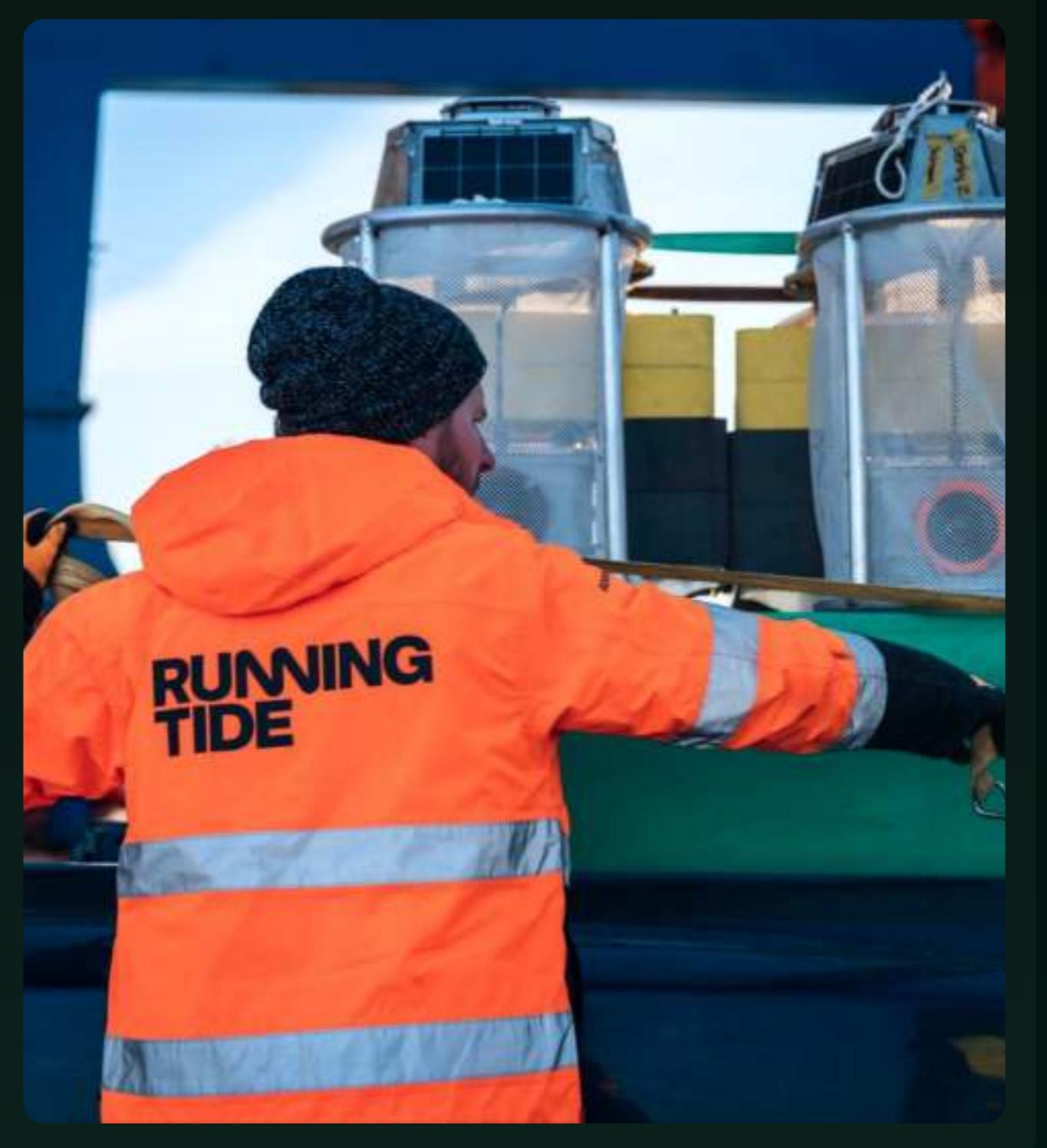
With that complexity came additional costs – and not enough additional customers. As expenses mounted, Running Tide wasn't able to secure larger, longer contracts to support its fast growth and complex operations.

According to Marty, it was better to shut down our operations rather than continue to persist at a lower level of quality.

Running Tide's journey exposed measurement challenges, highlighted regulatory obstacles, and forced important conversations about the ocean's role in carbon removal. Running Tide's struggle to land additional customers also foreshadowed a lack of demand that has emerged as one of carbon removal's biggest hurdles.

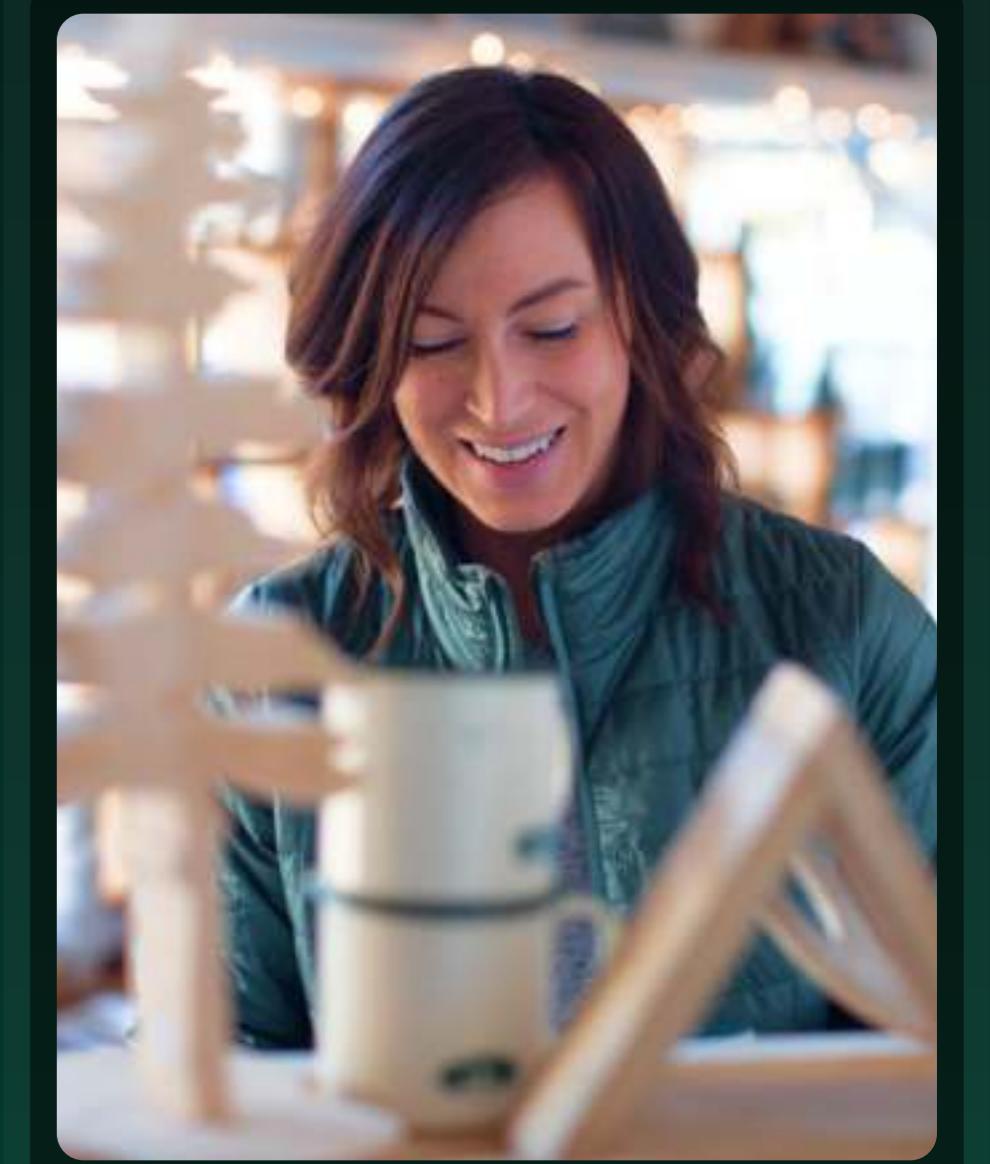
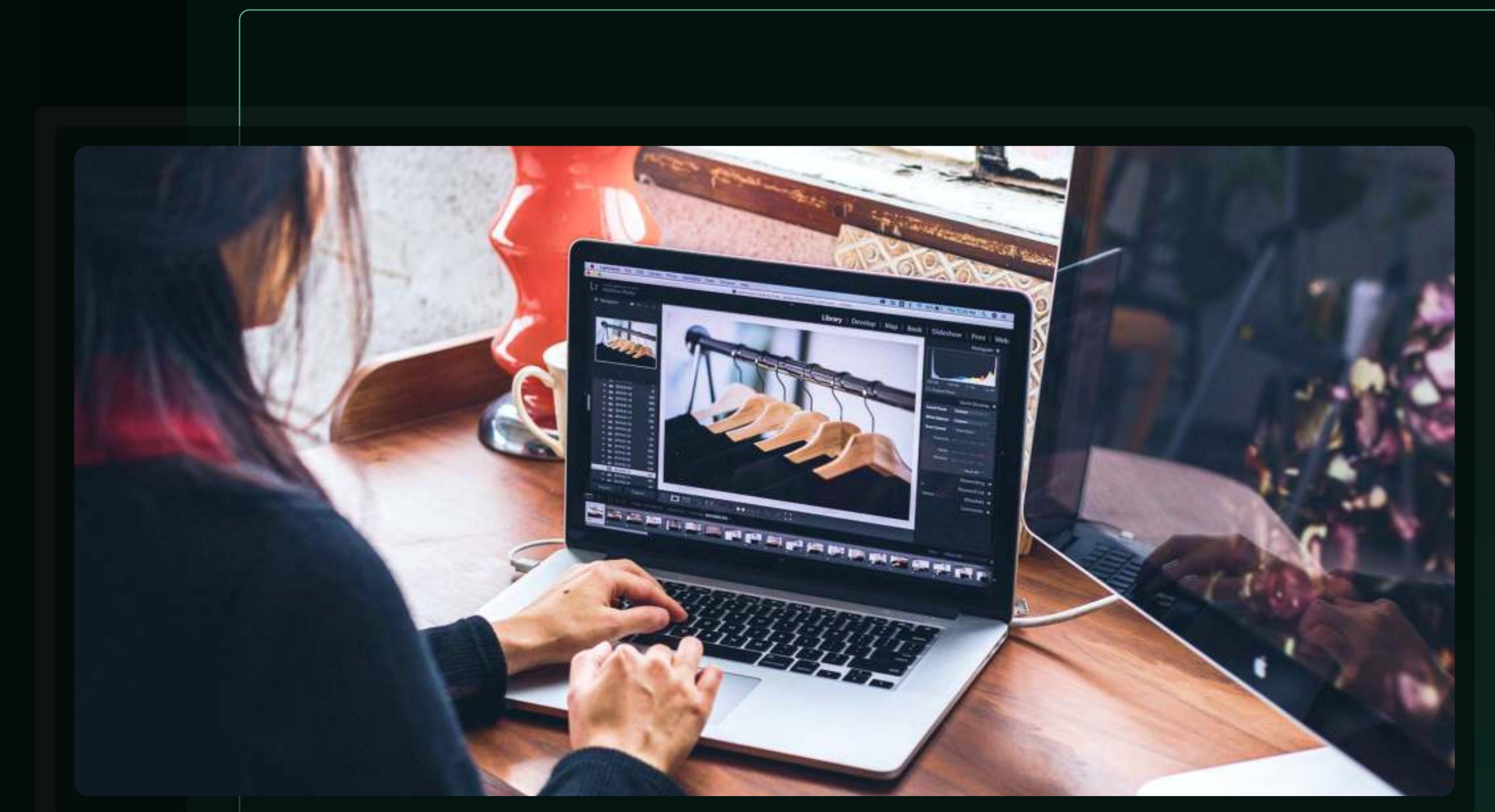
This learning wouldn't have happened without Running Tide. And Running Tide's progress wouldn't have happened without Shopify. "We did our part, and I'm really proud of it," Marty says. "We wouldn't have been able to do that without Shopify. And I don't say that lightly."

The hope moving forward, for Marty and for Shopify alike, is that in the process of successfully discovering what doesn't work, we'll discover what does.



Shopify Planet App

Planet, a Shopify app, enables merchants to offer carbon-neutral shipping by accessing the same carbon removal solutions selected for our Sustainability Fund. This helps businesses connect with climate-conscious consumers, address their shipping emissions, and generate crucial funding for tomorrow's carbon removal technologies.



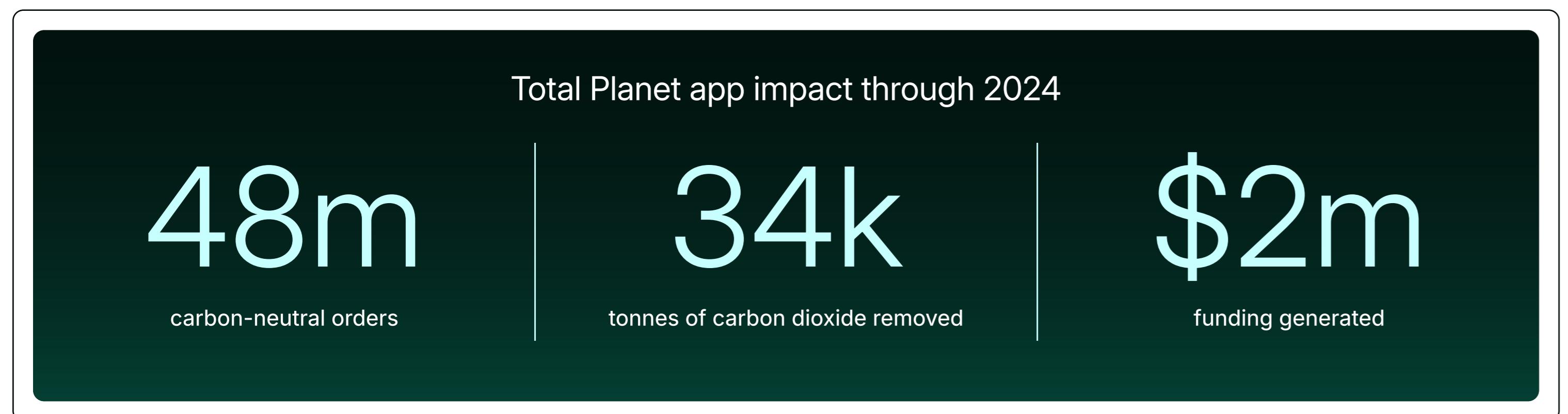
Planet App

2024 was a big year for Planet, a Shopify app that powers carbon-neutral shipping and enables merchants to connect with modern shoppers.

According to Shopify data, 43 percent of shoppers are more likely to buy from brands with sustainable offerings like carbon-neutral shipping, and PwC reports that consumers are willing to pay a 9.7 percent premium for sustainability.

In other words, sustainability can be a growth driver for Shopify brands.

Planet is designed to unlock this potential. The app features customizable badges, widgets, and marketing assets that merchants can leverage to show their climate commitment.



And then there's the climate impact. All of the revenue that Planet generates for carbon removal—seven figures' worth at the end of 2024—goes to entrepreneurial, early-stage suppliers dedicated to removing emissions from the atmosphere.

Together, Planet users have covered shipping emissions for 48 million orders, resulting in more than 34,000 tonnes of carbon dioxide removal. That's 34,000 tonnes worth of demand for carbon removal coming from Shopify brands—commerce entrepreneurs backing climate entrepreneurs.

[Check out Planet in the Shopify App Store.](#)



FARMER GRACY

“ Minimizing our environmental footprint is one of our core values, and achieving carbon neutrality in our shipping process is a critical step in that journey. To make this vision a reality, Shopify Planet is an essential partner. Their innovative solutions enable us to calculate and offset the carbon emissions generated during shipping, ensuring our products reach our customers sustainably. Together, we're making strides towards a greener future, one order at a time. ”



“ Sustainability is deeply ingrained in everything we do at Matriarch Athletics. Partnering with Planet has allowed us to seamlessly support innovative solutions that align with our mission to reduce environmental impact. Their tools empower us to make greener choices, enhance transparency, and connect with conscious customers who share our values. Planet is a must-have for any brand dedicated to making a difference. ”



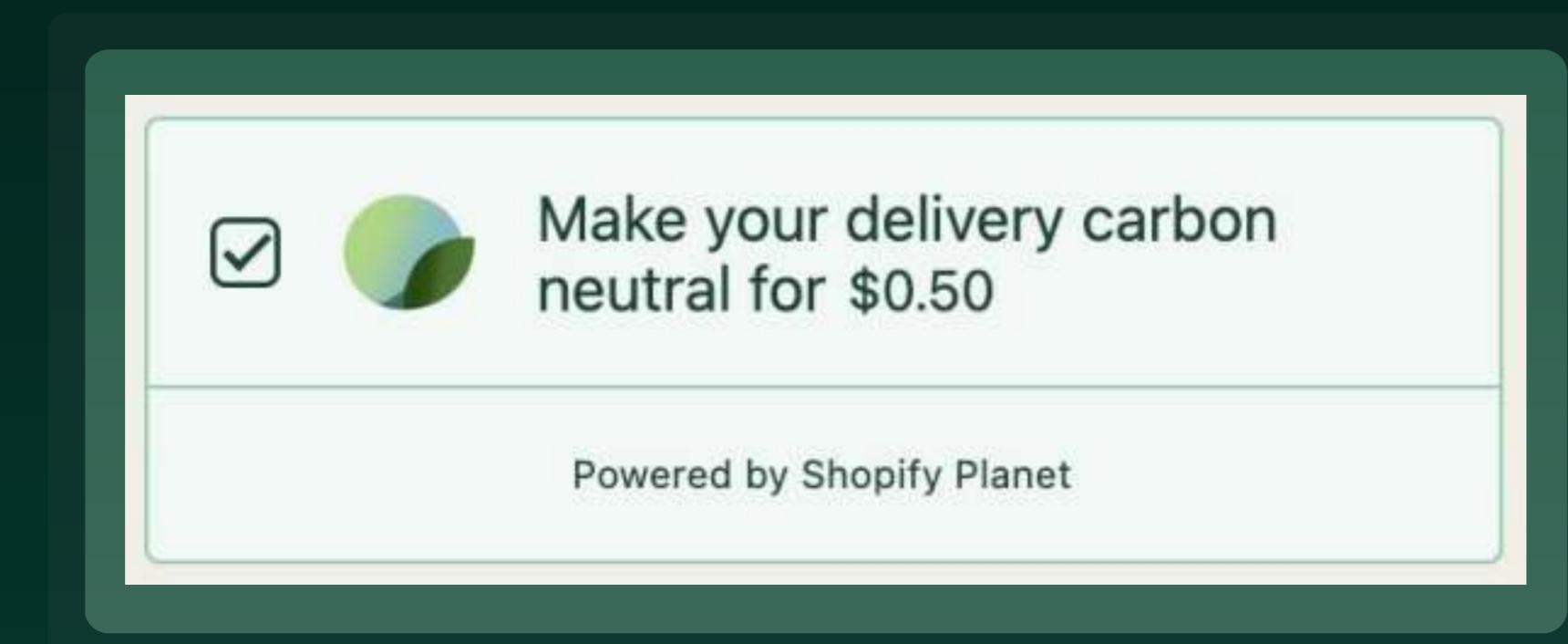
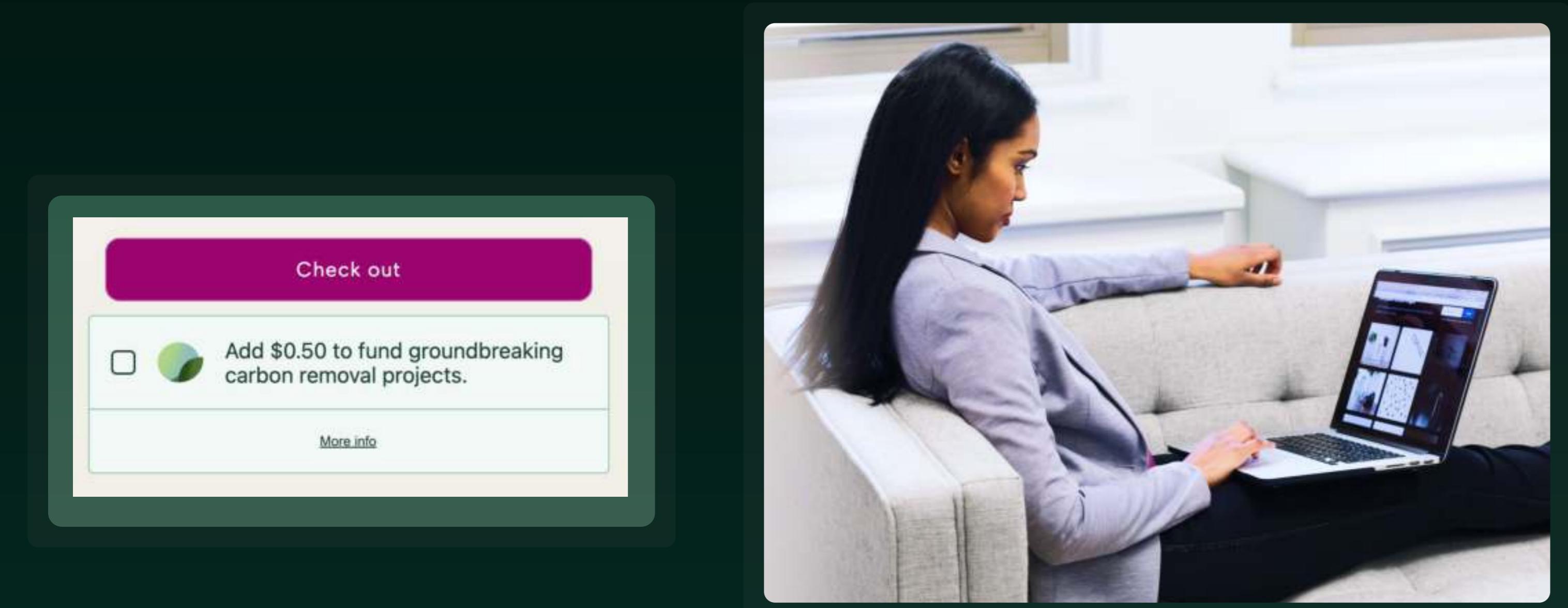
+IRONFANKS

“ Sustainability is a core value for our brand, and using Planet has been a meaningful step in reducing our environmental impact. By making our shipping carbon neutral and contributing a portion of each sale to innovative carbon offset programs, Planet allows us to take immediate action while we work toward our broader sustainability goals. ”

New Feature: Contribution Widget

With the contribution widget, customers can “top up” their order by adding a small amount of money at checkout. All of that money is then funnelled into carbon removal.

As soon as the feature launched, we realized customers were opting for sustainability. On some stores, customers choose to add carbon removal to more than 20 percent of all orders.



Here's what Planet users say about the new customer contributions feature.

Case For Making

“ Our customers are enthusiastic about the chance to make a positive impact. Customer contributions were simple to set up and have been really well received. Anything we can do as a small business and also collectively to help move towards a more sustainable future is something we'll always get behind! ”



Le Jardin Retrouvé

“ When we saw there was a new possibility of empowering our customers with helping the planet, we seized the opportunity. We were amazed at the results, showing us that our audience was really in tune with our brand DNA. We were also amazed at how easy the Shopify Planet app is to implement and to use. ”



Maître Philippe & Filles GmbH

“ The response from our customers to the opportunity for active climate protection has exceeded all expectations. We are firmly committed to creating a sustainable future – a commitment that is deeply embedded in our corporate philosophy. Our customers recognize this authentic approach and enthusiastically participate in our initiatives. ”



Planet App Carbon Removal Suppliers

These three Sustainability Fund companies are part of Shopify's broader network of carbon removal suppliers that power carbon-neutral shipping through Planet. Each uses distinct technologies—enhanced rock weathering, biochar production, and direct air capture—to transform merchant orders into meaningful climate action.



Mati delivers durable carbon removal through enhanced rock weathering (ERW) while enabling climate resilience for smallholder farmers of the global south.

“

Mati Carbon is excited to be part of Shopify's Planet app, making high-quality, science-backed carbon removal accessible at scale. Partnering with global leaders like Shopify allows us to expand ERW's impact—removing carbon while improving soil health and livelihoods for thousands of smallholder farmers.

”

Shantanu Agarwal, CEO



Applied Carbon's mobile technology converts the crop residues left after harvest to quality biochar, a durable carbon removal solution and potent soil health tool for farmers.

“

Applied Carbon is excited to be broadening access to biochar carbon removal with Shopify. Shopify's Planet app is a pioneering approach to enable more businesses to participate not only in supporting nascent carbon removal, but through Applied Carbon's work, also supporting farmers, soil health, and resilient food production.

”

Jason Aramburu, Co-Founder and CEO



1PointFive is a carbon capture, utilization, and sequestration company that is working to help curb global temperature rise to 1.5°C through the deployment of decarbonization solutions.

“

The Shopify Planet app is an example of how businesses and consumers can support climate solutions. Direct air capture carbon removal credits can provide a transparent and durable way to address emissions and build a more sustainable future.

Michael Avery, President and General Manager

”



Shopify's Carbon-Neutral Operations

Shopify's operations generate a carbon footprint through activities including business travel, home office energy use, and building energy use. We achieve carbon-neutral operations by leveraging the pioneering climate solutions we support through the Shopify Sustainability Fund, helping to build the climate tech ecosystem needed for sustainable commerce.



Energy and Emissions

	Unit	2022	2023	2024	Change (2023-2024)
Energy use - Buildings					
Natural gas	m3	1,286,561	243,396	102,226	-58%
Electricity	MWh	18,310	9,107	5,149	-43%
Energy use - Employee home offices					
Natural gas	m3	666,489	529,713	405,759	-23%
Electricity	MWh	7,479	5,616	4,957	-12%
Operational emissions					
Scope 1 (Building natural gas)	tCO2e	2,841	681	360	-47%
Scope 2 (Building electricity)	tCO2e	2,236	1,698	319	-81%
Scope 3.6 (Business travel)	tCO2e	22,314	20,370	21,959	8%
Scope 3.7 (Employee home office energy)	tCO2e	2,931	1,990	1,663	-16%
Gross operational emissions	tCO2e	30,322	24,739	24,301	-2%
Renewable natural gas credits	tCO2e	2,870	1,368	886	-35%
Renewable electricity certificates	tCO2e	3,652	2,516	890	-65%
Carbon removal credits retired	tCO2e	23,800	20,854	22,525	8%
Net operational emissions	tCO2e	0	0	0	0%
Emissions intensity					
Revenue emissions intensity	tCO2e / revenue	0.0000054	0.0000035	0.0000027	-22%
Employee emissions intensity	tCO2e / employee	2.61	2.56	2.96	16%

Key observations from this year's data

Buildings: Our building-related emissions decreased by 72 percent year-over-year as we optimized our real estate portfolio. We've also continued implementing energy efficiency measures across our remaining locations.

Business travel: The 8 percent increase in business travel emissions and 16 percent increase in employee emissions intensity are primarily a result of more in-person activities in 2024. These gatherings were essential for collaboration and community building.

Employee home offices energy: With our employee headcount down slightly from 2023 to 2024, home office emissions showed a similar decrease (-16 percent).

Understanding our emissions methodology

Our carbon accounting follows the Greenhouse Gas Protocol. The table displays the emissions categories—Scope 1, Scope 2, Scope 3.6, and Scope 3.7—that we count as our operational emissions. Here's a breakdown of what's included in each.

Scope 1 (building natural gas) and Scope 2 (building electricity): Encompasses all Shopify physical spaces, including global offices. We calculate natural gas consumption and electricity usage, applying regional emission factors to determine total emissions.

Scope 3.6 (business travel): Includes emissions from all business-related flights, rail journeys, rideshares, rental and personal vehicle usage for business purposes, and hotel stays.

Scope 3.7 (employee home office energy): Captures the energy use impact of our distributed workforce. We model energy consumption for employee home offices—both natural gas and electricity—using employee locations and regional grid data.

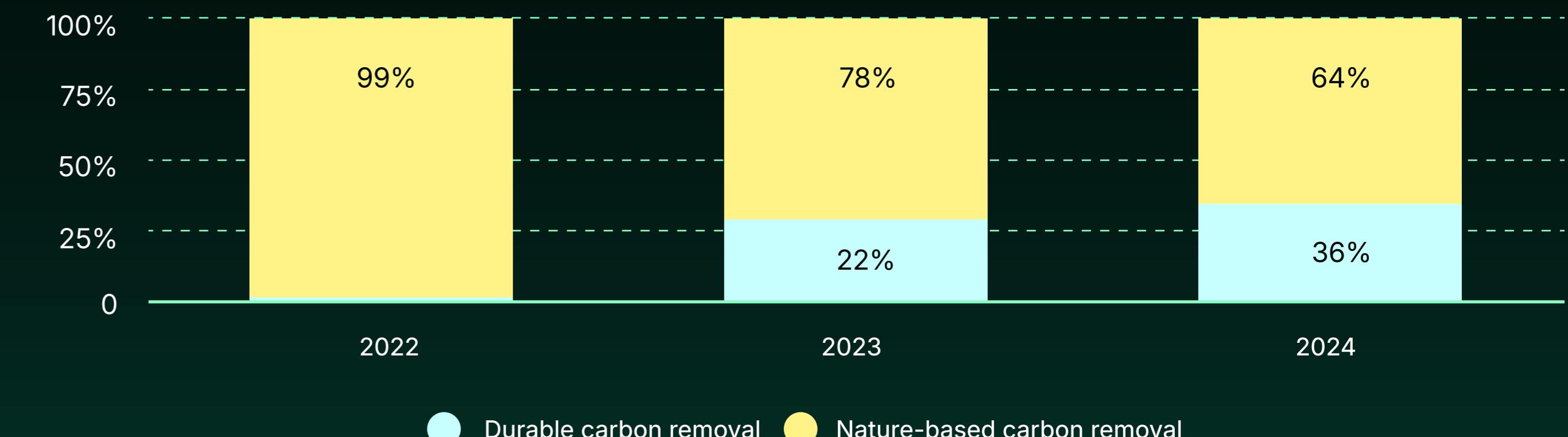


Addressing Our Emissions

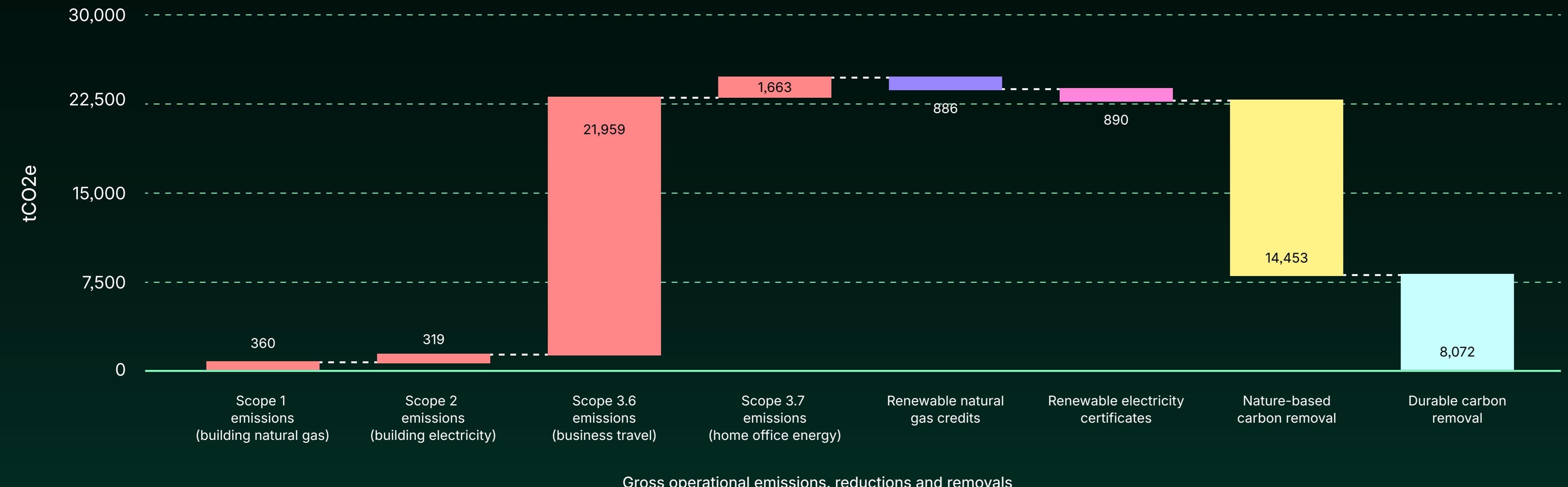
Our carbon-neutral operations commitment means we address all emissions from our buildings, employee offices, and business travel through a combination of renewable energy credits and carbon removal credits. Our renewable energy credits primarily come from the Rattlesnake Ridge Wind Power Project in Alberta, Canada, [which Shopify helped develop](#) through a power purchase agreement with Berkshire Hathaway Energy Canada, while our carbon removal credits are sourced from our Sustainability Fund [portfolio suppliers](#).

We prioritize using durable carbon removal credits (CO₂ stored for 100+ years) for covering our operational emissions. For 2024, we reached an all-time high of 36 percent—up 14 percent from 2023 and up 35 percent from 2022. To date, further growth has been constrained by delays across our durable carbon removal suppliers.

Type of carbon removal used



2024 Carbon-neutral operations



Carbon removal credits retired (tCO₂e)

Durable carbon removal	
Vaulted	3,010
Planboo	3,000
Lithos	1,000
Mati	458
Carbofex	400
Planetary	92
Charm	55
BIOSORRA	50
CREW	7
Total	8,072

Nature-based carbon removal	
Pachama	14,000
IndigoAg	453
Total	
14,453	



