

# CARBON REMOVAL PURCHASE AGREEMENT

	Purchase overview				
<b>Description</b>	Stripe, Inc. (“ <b>Stripe</b> ”) and Shopify (“ <b>Shopify</b> ”), for themselves as members of Frontier, will purchase 332 metric tons of carbon dioxide removal from the first year of operation for Holocene’s low-energy direct air capture pilot system based on aqueous absorption of CO <sub>2</sub> . <a href="#">The project is detailed in full here.</a>				
<b>Type</b>	Direct Air Capture				
<b>Purchase amount</b>	\$500,000				
<b>Service quantity</b>	332 metric tons				
<b>Price</b>	\$1,506 / metric ton				
<b>Estimated delivery schedule</b>	<p>The Service Quantity will be allocated according to the following schedule:</p> <table border="1"> <thead> <tr> <th>Year</th><th>Quantity (Net metric tons of CO<sub>2</sub> removed)</th></tr> </thead> <tbody> <tr> <td>2026</td><td>332 metric tons</td></tr> </tbody> </table>	Year	Quantity (Net metric tons of CO <sub>2</sub> removed)	2026	332 metric tons
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2026	332 metric tons				
<b>First customer?</b> <i>(alongside other Frontier buyers)</i>	Yes				
<b>Largest customer?</b> <i>(Frontier buyers combined)</i>	Yes				
<b>Estimated delivery start &amp; completion</b>	Q1 2026 - Q4 2026				
<b>Interim milestones &amp; payment schedule</b>	<p>We anticipate these steps will be important markers of progress toward delivering carbon removal.</p> <p>Subject to Section 2 below, the Purchase Amount will be payable 45 days after Company provides Buyer an invoice and evidence of achieving the following milestones, subject to Buyer’s reasonable requirements, and Buyer’s acceptance:</p>				

	Payment (USD)	Milestone	Estimated date
	\$500,000	Execution of the agreement	August 2023
		Complete 5 tpa demo commissioning and begin operation	Q1 2024
		Finalize site selections for development and utilities. Sign MOU for sequestration.	Q2 2024
		Complete FEED and detailed engineering of the pilot system. Secure remaining pilot financing.	Q4 2024
		Commence construction of the pilot system.	Q1 2025
		Complete pilot commissioning and begin operations. Notify Frontier of first ton removed.	Q4 2025

Pre-conditions for future purchase	
<b>Description</b>	<p>Upon Company achieving all of the conditions below, Buyer, or an affiliate thereof, for itself or in connection with Frontier, may enter into negotiations for a new offtake agreement. These criteria summarize what would make us excited about the further trajectory of this project.</p> <p>However, at our discretion, we may be willing to engage in this conversation earlier - especially if it would meaningfully advance your progress.</p>
<b>General</b>	<ul style="list-style-type: none"> <li>• Delivery of 100% of initial tonnage, with third party measurement, reporting, and verification (MRV) evidence of tons removed. Public reporting of tons delivered, price per ton, and protocol used at time of delivery</li> <li>• Completion of a third-party lifecycle analysis (LCA) to confirm the net tons removed for this project</li> <li>• Updated LCA for future deployments that demonstrate declining future process emissions and improving net negativity</li> <li>• Updated techno-economic analysis (TEA) providing significant</li> </ul>

	<p>evidence that a sub-\$100/ton capture cost by the date projected in the application to Frontier is achievable and highlighting key cost sensitivities. Differences between current experimental values and TEA assumptions for \$100/ton highlighted, including a plan to narrow the gap between actual and modeled performance is presented</p> <ul style="list-style-type: none"> <li>• Evidence of ongoing responsible community engagement and efforts to achieve the highest standards of safety, compliance, and local environmental outcomes</li> <li>• Meeting with Frontier and potential site visit upon delivery and achievement of project-specific renewal conditions to answer any questions about the results</li> </ul>
<b>Project-specific</b>	<ul style="list-style-type: none"> <li>• Achieve pilot system target performance during continuous operations: <ul style="list-style-type: none"> <li>◦ &lt;2 MWh of energy required per net ton CDR (with the understanding that the CO<sub>2</sub> will not be stored)</li> <li>◦ CO<sub>2</sub> purity of &gt;95%</li> <li>◦ Absorption efficiency of &gt;0.05 mol-CO<sub>2</sub>/mol-AA/hr</li> <li>◦ 5-year implied guanidine lifetime and 10-year implied amino acid lifetime</li> </ul> </li> <li>• Develop mitigation strategies for scaling risks, including supply chains of the chemical required for the process, and reduction of water required per net ton CDR.</li> <li>• Revised TEA based on updated material costs (especially for the amino acid and guanidine, or their replacements) resulting from the supply chain analysis, shows potential to achieve Frontier's cost and scale targets.</li> <li>• Revised LCA updated to include emissions associated with production of the required chemicals and end-of-life disposal shows strong and improving net negativity.</li> </ul>