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ADM moves into voluntary carbon removal market with 800,000-Tonne-a-year Columbus CCS Project

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Credits from ADMâ??s Columbus, Nebraska, carbon capture operations are undergoing Puro.earth certification, with initial issuance expected by year-end and a planned 15-year crediting period

ADM is preparing to enter the voluntary carbon dioxide removal (CDR) market with carbon removal credits generated from carbon capture operations at its Columbus, Nebraska, corn processing complex, potentially opening a new commercial channel for one of the largest bioethanol carbon capture facilities in the US. The facility has carbon capture capacity of more than 800,000 tonnes of COâ?? a year. The captured carbon is biogenic COâ?? generated during ethanol fermentation, making the project part of an emerging category of carbon removal systems that combine agricultural feedstocks, biofuel production, carbon capture and permanent geological storage.

The initial carbon removal credits are currently undergoing certification and issuance by Puro.earth, under its Geologically Stored Carbon methodology, Edition 2024. Certification and issuance are expected by the end of 2026. Once the certification and third-party verification process is completed, ADM expects the Columbus facility to enter a 15-year crediting period, creating a long-duration opportunity to generate carbon removal credits from the asset.

From ethanol plant to carbon-removal asset

ADM's move illustrates how the economics of the biofuels industry are expanding beyond ethanol and conventional coproducts. Carbon capture is increasingly becoming an additional value stream for facilities that can capture concentrated biogenic COâ?? and connect it to permanent geological storage. ADM inaugurated carbon capture and storage operations at Columbus in 2025 in partnership with Tallgrass, a major US energy infrastructure company. The project captures COâ?? produced during ethanol fermentation at ADM's corn processing facility.

The captured gas is then purified and compressed before being transported through Tallgrass infrastructure to the company's Eastern Wyoming Sequestration Hub, where it is intended for permanent underground storage through carbon storage wells

regulated under a Class VI permit issued by the Wyoming Department of Environmental Quality. The combination of agricultural production, bioethanol processing, COâ?? capture, transportation and geological storage creates the physical infrastructure needed to convert biogenic emissions into a carbon-removal product.

For ADM, the commercial proposition extends beyond decarbonising its own operations. Verified removal credits can potentially be sold to companies seeking durable carbon-removal instruments to address residual emissions.

Targeting a broader corporate market

ADM said it is already working with customers within its own value chains on carbon-removal opportunities and expects the new offering to allow it to reach customers across industries. These could include technology, finance, aviation and pharmaceuticalsâ??sectors in which companies are increasingly examining carbon dioxide removal as part of broader climate strategies. â??ADM has more than a decade of experience supporting carbon capture and geologic storage, including operating Class VI wells at our Decatur, Illinois, facility,â? said Kris Lutt, ADM's vice president of Innovation & Growth.

According to Lutt, ADM's experience, combined with Tallgrass' COâ?? transportation and sequestration infrastructure and the capabilities of other project participants, provides the company with a platform to connect agricultural production with emerging carbon-removal markets at scale. The potential significance lies in the integration. Rather than developing a standalone carbon-removal facility, ADM is using an existing industrial processâ??corn fermentationâ??to produce a concentrated biogenic COâ?? stream that can be captured and permanently stored.

Certification is the market gateway

The credibility of carbon-removal credits depends heavily on measurement, reporting, verification and permanence. Certification under an established methodology is therefore central to turning physical COâ?? storage into a tradable carbon-removal commodity. Puro.earth is overseeing certification and issuance of the Columbus credits under its Geologically Stored Carbon methodology.

Jan-Willem Bode, President of Puro.earth, said the certification process requires rigorous measurement, data collection and third-party auditing, adding that the Columbus project could establish a benchmark for scaling carbon removal from large bioethanol facilities.

The distinction is important in a carbon market where buyers are increasingly scrutinising the underlying quality and permanence of credits rather than simply purchasing offsets based on nominal tonnes of COâ?? avoided or removed. For ADM, the planned 15-year crediting period could provide a relatively long revenue horizon from the carbon-removal component of the Columbus operation, subject to successful verification and continued compliance with the applicable methodology.

Agriculture's carbon-removal opportunity

ADM's strategy also reflects a broader shift in how agricultural companies are positioning themselves in the low-carbon economy. Corn is the feedstock for ADM's ethanol operations, while fermentation generates the concentrated biogenic COâ?? that forms the basis of the carbon-removal project. The company's ability to integrate these stages gives it a direct connection between agricultural production and carbon-removal markets.

ADM is simultaneously expanding its activities in regenerative agriculture and renewable natural gas while developing carbon capture and storage capabilities. The company sees these activities as part of a wider strategy to use its agricultural and processing footprint to develop lower-carbon businesses. â??We view agriculture as a powerful engine to lower carbon,â? Lutt said, pointing to ADM's work in regenerative agriculture, renewable natural gas and CCS.

The Columbus project therefore represents more than an emissions-management initiative. It is an attempt to create a new commercial product from an existing agricultural processing value chain.

Building scale around biogenic COâ??

ADM's Columbus complex employs more than 650 people and includes wet and dry mills that process corn into food ingredients, fuels and animal feed products. The scale of the operation is central to the carbon-removal proposition. With more than 800,000 tonnes a year of carbon capture capacity, the facility sits at the intersection of two expanding markets: low-carbon fuels and engineered carbon dioxide removal.

The success of the project will ultimately depend not only on the technical performance of the capture and storage system but also on the ability to certify the removals and secure customers willing to pay for verified, durable carbon removal. If certification proceeds as planned, ADM's initial credits could reach the market by the end of 2026, marking a significant step in the commercialisation of carbon removal from bioethanol operations.

The larger question for the agricultural industry is whether similar fermentation-based facilities can replicate the model. If they can, ethanol plants could evolve from fuel-production assets into integrated platforms producing ethanol, feed ingredients and verified carbon-removal credits from the same agricultural value chain.