SUSTAINABLE AVIATION FUEL (SAF) & CARBON CAPTURE AND STORAGE (CCS)

QUICK FACTS:

Sustainable Aviation Fuel (SAF) is a historic opportunity for biofuel producers and Illinois farmers to access a critical emerging market.

- Experts, executives, governments, and researchers agree: low-carbon SAF is critical to the future of aviation. (Source: International Energy Agency)
- The Midwest, with its extraordinary combination of ethanol production, industrial know-how, and heavy airline presence can be at the center of that revolution.

SAF is expected to add $1.25 to $2 per gallon to the value of American ag-based fuel feedstocks, benefitting farmers and the entire ag supply chain.

- The U.S. and the EU have set goals that together would support almost 4 billion gallons of annual sustainable aviation fuel production in 2030, and about 40 billion by 2050. (Source: American Carbon Alliance)

But SAF cannot happen without carbon capture and storage (CCS).

- Current regulations require SAFs to have a carbon intensity score 50 percent below that of traditional aviation fuel. (Source: U.S. Government)

CCS is the most significant commercially viable tool capable of reducing biofuels' carbon intensity enough to qualify under SAF rules.

- Ethanol-based jet fuel has a carbon intensity of 69 grams of CO_2 per megajoule. CCS can reduce that to 38—enough to qualify under SAF rules.
- Without CCS, ethanol-based jet fuel **will not qualify** as a sustainable fuel. (Source: American Carbon Alliance)

Thankfully, Illinois is home to one of the greatest CCS opportunities in the United States: the Illinois Basin.

- Experts at the University of Illinois estimate that billions of tons of CO_2 can be safely and permanently sequestered deep underground in Central Illinois, generating up to $15.3 billion in investment and 14,400 jobs for the region. (Source: Regional Carbon Capture Deployment Initiative, Great Plains Institute)
- Millions of tons of CO_2 have already been safely sequestered in Decatur over the past decade. (Source: U.S. Department of Energy)

With the implementation of CCS technology, Midwestern ethanol could be a globally competitive low-carbon aviation fuel.

- (Source: American Carbon Alliance)

WHAT THE EXPERTS ARE SAYING:

Secretary of Agriculture Tom Vilsack:
"For folks in the Midwest, if they're interested in taking advantage of a biofuel renaissance and expansion with sustainable aviation fuel... they are going to have to have some way of dealing with the issue of carbon capture and storage." – Reuters

United Airlines CEO Scott Kirby:
"Carbon capture technology has the potential to be a critical solution in the fight to stop climate change and has the added benefit of helping us scale the production of SAF." – Press Release

Iowa Renewable Fuels Association Executive Director Monte Shaw:
"I honestly don't think it's hyperbole to say that capturing and sequestering carbon will be life or death for most ethanol plants over the next five years." – Iowa Capital Dispatch

Carbon Direct:
"We found that well-regulated carbon capture and storage (CCS) is a powerful lever to reduce carbon intensity across multiple sustainable aviation fuel production pathways. For example, carbon capture and storage can capture off-gases from both alcohol-to-jet and Fischer-Tropsch pathways, in some cases resulting in larger climate benefits than the initial switch from fossil to conventional biofuels." – Carbon Direct

CEO of American Carbon Alliance Tom Buis:
"Carbon Capture and Sequestration creates market opportunities for ethanol producers providing long-term benefits for the industry and all of agriculture." – American Carbon Alliance

Valero VP Homer Bhullar:
"Without carbon capture and storage, conventional ethanol does not have a pathway into SAF under today's policies." – Reuters

FOR MORE INFORMATION, VISIT: WWW.ADM.COM/CCS