

# Takeoff with Sustainable Aviation Fuel

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HELPING SOUTH DAKOTA'S ECONOMY SOAR

# The Study

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- With corn production rising faster than demand, corn prices taking their largest drop in a decade, a large potential new market is emerging: **Sustainable Aviation Fuel (SAF)**.
- SAF holds the promise for the **largest rural transformation** since the intro of corn hybrids.
- However, there needs to be **long-term, stable** public policy, proper **carbon accounting** metrics, and **carbon capture and sequestration** for ethanol producers.
- Decision Innovation Solutions (DIS) conducted a study of the economic impact on South Dakota if the SAF Grand Challenge goal of 35 billion gallons by 2050 was met.

# Top Line Results

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The study determined that SAF from fats, oils, and greases (HEFA-SAF) and ethanol-to-jet (ETJ-SAF) will unlock the following:

- Potential for 400 million gallons more ethanol plant capacity in the South Dakota
- Potential for ETJ-SAF plants in South Dakota using 426 mgy of ethanol
- Potential for 1 or more HEFA-SAF plants in SD, each using the soybean oil from 167 million bushels of soybeans

# Economic Impact Summary

South Dakota Operations Impact Summary (Direct, Indirect, and Induced Impacts)				
Event	Employment	Labor Income (\$M)	Value Added (\$M)	Output (\$M)
New Ethanol Production	4,045	\$ 185.4	\$ 370.3	\$ 1,511.1
SAF from ETJ	562	\$ 27.8	\$ 3.9	\$ 106.4
SAF from HEFA	640	\$ 27.4	\$ 294.5	\$ 1,045.5
<b>Total</b>	<b>5,247</b>	<b>\$ 240.6</b>	<b>\$ 668.6</b>	<b>\$ 2,663.1</b>

South Dakota Construction Impact Summary				
Event	Employment	Labor Income (\$M)	Value Added (\$M)	Output (\$M)
New Ethanol Production	3,915	\$ 251.7	\$ 319.2	\$ 628.4
SAF from ETJ	1,948	\$ 128.0	\$ 164.7	\$ 322.1
SAF from HEFA	3,226	\$ 212.5	\$ 274.2	\$ 535.5
<b>Total</b>	<b>9,089</b>	<b>\$ 592.2</b>	<b>\$ 758.2</b>	<b>\$ 1,486.0</b>

# Key State Economic Findings

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- 9,089 construction jobs adding more than **\$750 million** to South Dakota's GDP and **\$600 million** in income
- 5,247 permanent new jobs
- \$241 million in new household income
- \$667 million added to South Dakota's GDP
- 138 million bushels of new corn grind per year in SD
- \$12,725 additional farm income per year by 2050
  - Typical 1,000-acre South Dakota farm at 50/50 split between corn and soybeans

# Summary

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- Some ETJ-SAF can be produced from ethanol plants that can sequester CO<sub>2</sub> onsite, but that only amounts to about 15% of potential demand.
- To unlock the full potential of ETJ, existing and new ethanol plants need to be able to produce ethanol with carbon scores of 25-30 or less for that ethanol to be used for ETJ-SAF. That requires carbon capture and sequestration.

These results don't happen without  
Summit Carbon Solutions.