Siouxland Ethanol began operations in 2007 as a 50 mgy Fagen/ICM plant at Jackson, NE.
SIOUXLAND ETHANOL

Annual Production Today

Ethanol
95 million gallons

Corn Oil
31 million lbs

Distillers Grain
215,000 T
Previous mindset

“Ethanol producers are just price takers.”

New mindset

“We must seek opportunities to receive the highest value for our product.”
To be an efficient producer of ethanol and its co-products with a low carbon footprint and to promote the “clean octane” value of ethanol which will ensure long-term profitability for the industry and the investors in Siouxland Ethanol.
IMPLEMENTATION OF MISSION STATEMENT

EFFICIENT PRODUCER EFFORTS

• INCREASED THROUGHPUT FROM 57 MGY (2015) TO 95 MGY (2019)

• INCREASED ETHANOL YIELD TO 3.0 GAL/BU

• INCREASED CORN OIL YIELD TO 1.0 LB/BU
IMPLEMENTATION OF MISSION STATEMENT

LOW CARBON FOOTPRINT

• STEADY REDUCTIONS IN ENERGY USE
  • LOWER PER GALLON USAGE OF ELECTRICITY, NATURAL GAS

• REDUCED NATURAL GAS USAGE
  • DRYER EXHAUST ENERGY RECOVERY SYSTEM (BIOLEAP).
    • 16% REDUCTION IN NATURAL GAS USAGE

• LANDFILL GAS (METHANE)
  • 10% DISPLACEMENT OF NATURAL GAS
One point of Carbon Reduction is equal to $1.6$ million/year for a 100 mgy corn ethanol plant

(assuming $200/T$ value of carbon)
If an ethanol plant with normal consumption of natural gas at 25,000 BTU/gal were to convert to using all methane instead, CI reduction of 18 pts.
The DEER system at Siouxland Ethanol was worth 3.2 pts of CI reduction.
Siouxland Ethanol CI score for California’s LCFS
Using CA-GREET 3.0 model

Corn Starch Ethanol – 66.23

Corn Fiber (cellulosic) Ethanol – 26.67
OTHER LOW CARBON FUEL STANDARD CLEAN FUELS PROGRAMS

WEST COAST EFFORTS

OREGON CLEAN FUELS PROGRAM
Uses the OR-GREET model

Washington state effort failed again this year. Puget Sound Clean Air Agency working on a regional approach.

BC-LCFS implemented in 2015; uses GHGenius life cycle assessment model developed in Canada
Efforts to combat air pollution and climate change led by the Transportation & Climate Initiative, a regional partnership for clean transportation in 12 states and D.C.
MIDWEST CLEAN FUELS PROGRAM

GOAL: Design a program that benefits ag and biofuels by creating value for practices and products that reduce CI of transportation fuels.
The Hill by Mike Carr: “…time for a “Clean Energy Revolution’. With people all over the world experiencing first-hand the signs of a warming world, it’s time to stop being so tentative and embrace the next great challenge – one that can incidentally lead to increased American innovation, boost the middle class-particularly in rural America-out of its current economic malaise.” Carr goes on to discuss solar and wind and biofuels.
Transportation is the second biggest source of GHG emissions in the world, accounting for more than one fifth of all emissions. Ethanol cuts GHG emissions from petrol by more than half and is promoted by most major industrial nations in the world. ….ethanol will be essential to mitigate the emissions of petrol for decades ahead.

UN Climate Change – Opinion. 27 Oct, 2017
LOW CARBON OCTANE STANDARD

The time is NOW for legislative action to force EPA to remove regulatory barriers that restrict free market access to higher blends of ethanol and highlight the low carbon footprint of ethanol.
IN 2018 ALONE:

~ 14.4 billion gallons of ethanol were blended into the U.S. fuel supply

Reducing GHG emissions from the transportation sector by 55.1 million metric tons – THAT’S EQUIVALENT TO:

Eliminating 11.7 million cars from the road for an entire year

Displacing 550 million barrels of imported crude oil

OR

Eliminating annual emissions from 13 coal-fired power plants

#CLEARINGTHEAIR
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