Heartwell Renewable Project – Hastings Support Activities

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About Heartwell Renewables

Renewables is a unique joint venture between affiliates of The Love's Family of Companies and Cargill to produce and market renewable diesel.

Heartwell Renewables is the only entity of its kind to both manufacture and distribute this fuel all the way to the retail pump.

About Heartwell Renewables

Cargill will source and provide the feedstock for fuel production. This primarily includes tallow, sourced in part from Cargill Nebraska facilities, as well as other low-carbon feedstocks like distillers corn oil.

Once the fuel is produced, Musket, a division of the Love's Family of Companies, will transport and market the fuel across the United States.

About Heartwell Renewables

The purpose of the project is to construct a site that converts these feedstocks, which are typically inedible and handled as a waste into renewable diesel.

Renewable diesel has a higher cetane rating so it burns more completely resulting in significant greenhouse gas reductions over conventional diesel.

About Heartwell Renewables

The ability to convert triglycerides and fatty acids to renewable diesel through a process similar to hydrotreating.

Renewable diesel has been widely recognized and accepted as a method to reduce the carbon intensity of transportation fuels and reduce greenhouse gas emissions.

About Heartwell Renewables

Renewable diesel and traditional biodiesel are often confused even though they are very different products made from organic biomasses.

Generally, renewable diesel is produced from the hydrogenation of waste and residues, whereas biodiesel is produced through the esterification of vegetable oils and fats.

About Heartwell Renewables

Traditional biodiesel is an ester which must be blended with conventional diesel to avoid problems in standard diesel engines.

In the US conventional (or fossil) diesel and renewable diesel are both long chain hydrocarbons and chemically identical.

About Heartwell Renewables

Renewable diesel can be used as a “drop-in” replacement for conventional diesel in concentrations of up to 100% in lieu of 20% for biodiesel.

Heartwell Project Summary

- Began Construction November 11, 2022
- Begin Startup Testing to end of 2024
- Peak Construction Work Force 800+ employees
- Estimated Cost of Construction $500 Million+
- Expected Production Rate 80 million gallons per year

Heartwell Project Summary

- Peak Work Force 80+ employees
- Current headcount of employees is 61
- Developing training at Central Community College learning about this new technology, its inherently safe design and how the facility is designed to run

Heartwell Project Photos

Heartwell Project Photos

Heartwell Project Photos

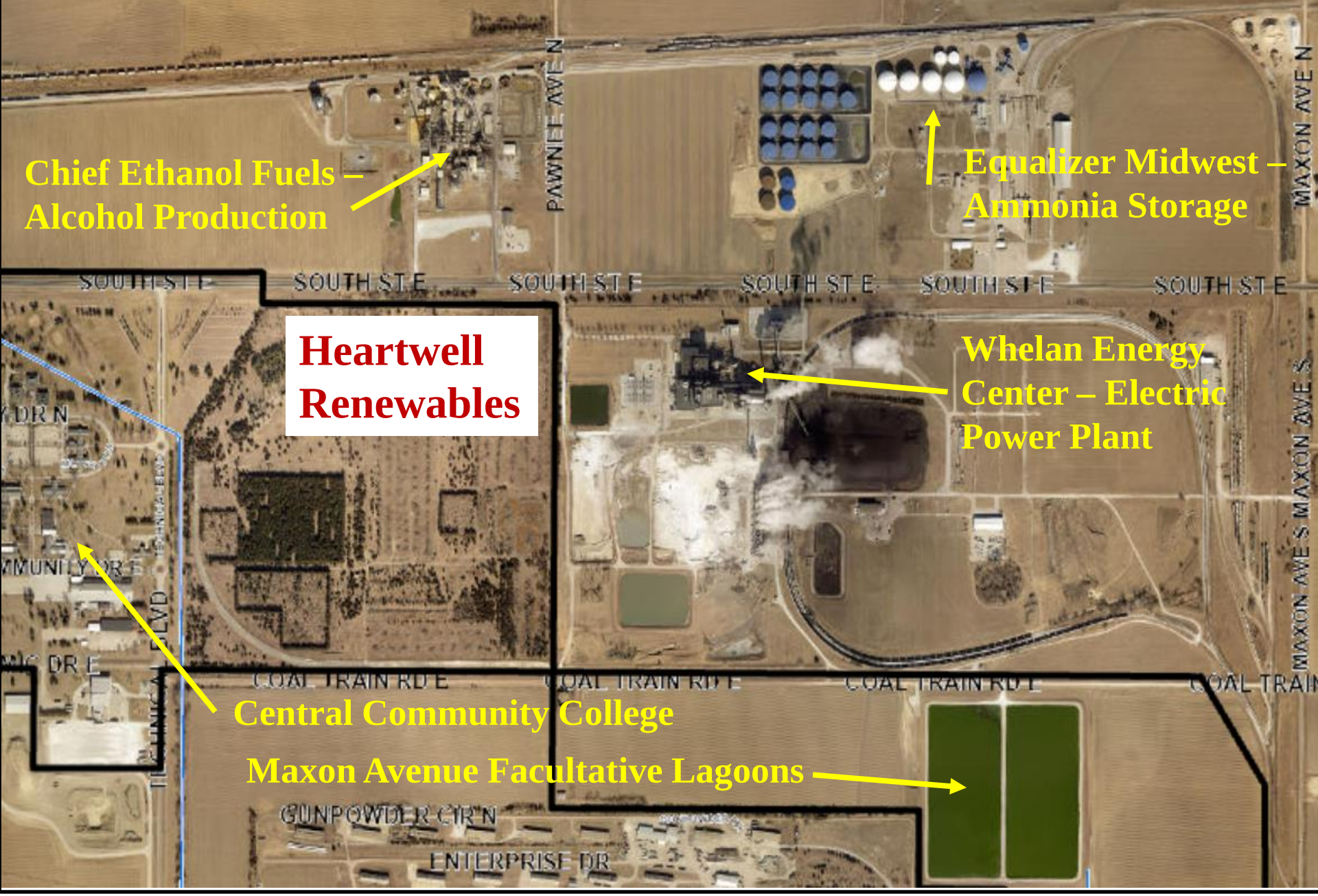
Hastings Support Activities

- Economic Development – Land
- Building Permits – Emergency Services
- Workforce Housing
- Highway No. 6 – Entrance
- Rail Service
- Electric Service

HASTINGS
Nebraska

Hastings Support Activities

- Water Service
- Sewer Service
- Wastewater Treatment
- Solid Waste Disposal
- Monitoring Wells


Chief Ethanol Fuels – Alcohol Production
Equalizer Midwest – Ammonia Storage
Heartwell Renewables
Whelan Energy Center – Electric Power Plant
Central Community College
Maxon Avenue Facultative Lagoons
PAWNEE AVE N
MAXON AVE N
MAXON AVE S
SOUTH ST E
COAL TRAIN RD E
GUNPOWDER CIR N
ENTERPRISE DR


10/12/2010

Economic Development - Land

- Land located west of the Whelan Energy Center
- Land was owned by the City of Hastings and was sold to Heartwell Renewables
- 154 Acres formally a Tree Preserve maintained by the Fish and Wildlife Service
- The land was set aside as a condition of the development of the Naval Ammunition Depot

Naval Ammunition Depot ??

- Naval Ammunition Depot (NAD) occupied 49,000 Acres, in 1942 and supplied over 40% of the Navy's munitions in WWII.

Building Permits – Emergency Service

- Hastings is responsible for approving Building Permits
- This involves review of structural construction, parking, handicap accessibility, stormwater control, signage, security, etc.
- Electrical, Plumbing and Fire Safety is addressed

Building Permits – Emergency Service

- Significant work load for staff and to also manage other projects in the city
- Coordination with Fire Department is critical in establishing appropriate Fire Department Response
- City Departments are in a better position to provide service by closely working with Heartwell during design and construction

Workforce Housing

- Workforce housing is on going with the assistance of the Hastings Economic Development Corporation, Hastings Community Redevelopment Authority and others
- Ordinance allowing Extended 5th Wheeled RV Parking in Mobile Home Parks
- Changes to codes to allow additional downtown residential apartments

Highway No. 6 Entrance

- Engineering assisted Heartwell in getting a new entrance off of Highway No. 6 into their facility

Rail Service

- WEC is served by both the UPRR and BNRR along the east side of the facility
- To facilitate the shipment of product by rail, a rail spur was required to be built across the south side of the WEC facility onto the Maxon Avenue Lagoon property

Rail Service

- Significant coordination of utility relocates, access by emergency services, existing maintenance access to WEC rail service had to be addressed

Rail Service

- Providing security during and after construction has been a challenge

Electric Service - Construction

- Extended electric service into the site for construction power

Electric Service - Operations

- A $6,000,000 substation is required to supply electricity for the commercial operations
- Critical item is a 28,500 KVA transformer to be installed
- Transformer manufacture and delivery is 2 year lead time – “Still waiting for delivery”

Water Service

- Water service is required for both construction and for commercial operation

Water Service

- Existing water lines within the construction site had to be removed – Transite (NAD)
- HU has provided service to two locations by utilizing existing water mains and service line which enable quick response to provide water for construction and will also be used for commercial operation

Sewer Service

- Sewer service required for commercial operation was a challenge
- To facilitate the construction of the Heartwell rail yard Central Community College sewer service has to be relocated
- Sewer Lift Station and Force Main is required

Sewer Service

- Working with Heartwell on sewer issues Hastings was able to implement a project to relieve capacity issues for the Maxon Avenue Wastewater Lagoon Facility

- Extending the life of the Maxon Facility thus reducing capital expenditures by the Sewer Department

Sewer Service Development

Heartwell Renewable site located 1.75 east of Hwy 6 and Showboat

Sanitary Sewer Connection

New Sewer Lift Station

Maxon Lagoon Outfall by HU

Wastewater Treatment

- The Heartwell sanitary sewer flow along with the Central Community College will be directed to the Hastings Pollution Control Facility (PCF)
- Operational studies were completed by Hastings Staff to ensure sanitary flows can be treated by the existing activated sludge process

Wastewater Treatment

- Pretreatment standards are required to be met to ensure proper treatment of sanitary sewage
- Hastings will be conducting periodic monitoring to ensure compliance of sewer ordinance

Landfill Disposal

- The Hastings Landfill will be taking solid waste from the Heartwell facility

Landfill Disposal

- Proper screening of solid waste will be provided by Heartwell to allow for the solid waste disposal
- This includes condition of the solid waste for liquids and odors
- Solid waste disposal is govern by NDEE thru its Solid Waste Program – receipt of solid waste is subject to Landfill inspection and appoval

Monitoring Wells

- The Heartwell construction site has several monitoring wells used by various parties
- This included Potential Responsible Parties of up gradient Superfund Sites
- Working with Heartwell most monitoring wells were kept in place and safe access provided

Monitoring Wells

- The monitoring wells that were relocated where given sufficient space and location to ensure the original function was maintained

Heartwell / Hastings Team

- Heartwell and Hastings has had a team approach to getting this project underway
- Hastings doesn’t have a lot of personnel to put on this project but because of our knowledge of the utility systems, local contractors and permitting we have found ways to save time and money

Heartwell / Hastings Team

Industrial and Commercial developments for communities like Hastings takes significant efforts by staff to bring a project to fruition.

Project requirements for the city activities are successful because staff takes ownership in the process to complete the tasks

Questions