



# North Dakota Clean Hydrogen Hub

The Transformation  
of the  
Great Plains Synfuels Plant

September 30, 2021



Bakken Energy, LLC is a leading clean hydrogen company focused on clean hydrogen infrastructure development in North Dakota.

The Bakken Energy team is led by experienced entrepreneurs, innovators, company builders, financiers, investment bankers, energy sector professionals and project developers.

Bakken Energy has offices in North Dakota, California and New York.



## Bakken Energy and Mitsubishi Power | Strategic Partnership

**June 2, 2021** - Bakken Energy and Mitsubishi Power signed a strategic partnership agreement to create a world-class clean hydrogen hub in North Dakota. This hub will be composed of facilities that produce, store, transport and consume clean hydrogen. It will be connected by pipeline to other clean hydrogen hubs being developed throughout North America.

## Bakken Energy to Purchase Dakota Gasification Company Assets

**August 16, 2021** - Bakken Energy announced that it has reached agreement with Basin Electric Power Cooperative (Basin Electric) to purchase the Great Plains Synfuels Plant assets of the Dakota Gasification Company located near Beulah, North Dakota.

The Synfuels Plant will be transformed into the largest and lowest-cost, clean hydrogen production facility in the United States. The Synfuels Plant facility will form the nucleus of a clean energy hub designed to aggressively advance regional, national, and global decarbonization objectives through the development of clean hydrogen applications for the agriculture, power, and transportation sectors.

# North Dakota Clean Hydrogen Hub

- We have successfully completed our initial evaluation of the Synfuels Plant for redevelopment into a world-class clean hydrogen hub and are currently in the pre-FEED phase of project development.
- The existing Synfuels Plant and coal gasification processes, related infrastructure and existing carbon capture infrastructure process provide unique opportunities to leverage existing infrastructure for the production of clean hydrogen.
- The project will use advanced ATR (autothermal reforming) hydrogen production technology and capture at least 95% of the carbon emissions. ATR technology was selected to maximize CO<sub>2</sub> capture rates and the repurposing of existing Synfuels Plant infrastructure and processes.
- The redevelopment is projected to cost approximately \$2 billion which will be financed by Bakken Energy and Mitsubishi with debt and equity and leveraging public private partnerships.



**Great Plains Synfuels Plant  
Beulah, North Dakota**



# Clean Hydrogen Production | Leveraging Existing Infrastructure



 Existing Equipment

 Existing Infrastructure



**Air Separation Unit (ASU)**

**High Temperature Shift**

**Acid Gas Removal (AGR)**

**Methanator**

**CO<sub>2</sub> Dehydration and Compression**

**Ammonia Plant**

**Ammonia Storage**

**Rail**

**Natural Gas Supply**

**Utilities**

**Truck-Rail Loading and Unloading**

# Class VI Well Permitting

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- Bakken Energy is pursuing two paths with respect to our CO<sub>2</sub> sequestration strategy
- Bakken Energy is currently undertaking a reservoir identification and characterization effort as part of the Great Plains Synfuels Plant redevelopment effort
- Bakken Energy is in discussions with 3<sup>rd</sup> parties in the latter stages of the permitting process as an option for CO<sub>2</sub> sequestration