ALBERTA INNOVATES

CLEAN RESOURCES

ADVANCED HYDROCARBONS

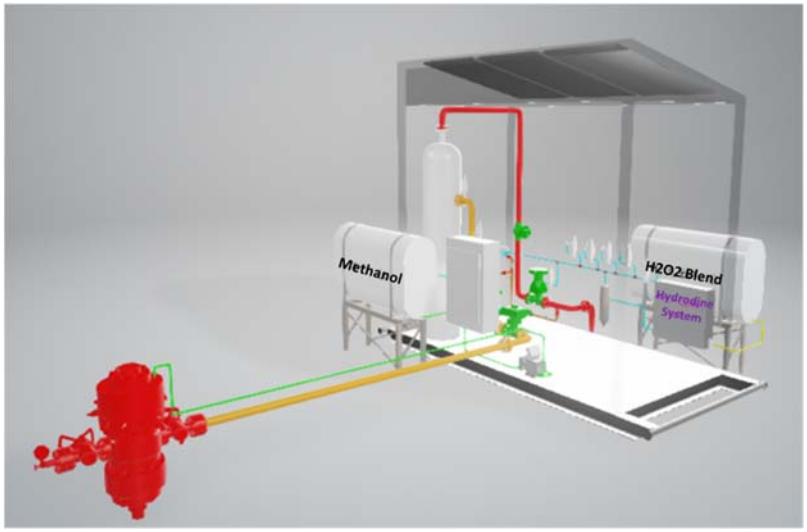
CLEANER HYDROCARBON PRODUCTION – METHANE EMISSIONS REDUCTION

HCL Beta Prototype Development, Field Testing, and Optimization

FUNDING DETAILS

Hydrodine Catalytics Ltd. (HCL) has developed a disruptive, game changing technology that will replace the existing fuel gas systems currently used in remote natural gas well sites. HCL's technology uses hydrogen peroxide flowing over its proprietary catalyst to produce heat, power, and instrument air. The heat is used to keep the separator shed warm during winter months, the power is used to provide power for electrical equipment and a compressor that provides instrument air for pneumatic devices.

Through this project HCL will design, build, and field test a beta prototype, and perform optimization during in-situ testing, leading to a commercially viable product.



RECIPIENT:
Hydrodine Catalytics Ltd.

PARTNERS:
Surepoint Group
Chandos Construction

TOTAL BUDGET:
$608,500

AI FUNDING:
$245,000 (TIER ERP)

PROJECT DATES:
JAN 2021 – APR 2022

PROJECT TRL:
Start: 6
End: 9

APPLICATION

Hydrodine Catalytics Ltd. (HCL) has developed a disruptive, game changing technology that has zero emissions, materially lowers capital and operating expenses, improves the health and safety for frontline workers, and enables owner/operators to capture the full value of offset gas credits. This unit will replace the existing fuel gas systems currently used in remote natural gas well sites, and has further applications in pulp & paper, wastewater treatment, defense, and other industrial settings.

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PROJECT GOALS

This project will

- Advance and de-risk the HCL System alpha prototype model by developing a beta prototype for field testing. This will be accomplished by working with an engineering design firm to finalize the design and engineering of the System.
- Establish a validated field test pilot to enable commercialization and industry adoption. This will be accomplished by at least two or more field pilots, including a pilot at a Chandos construction site in the Edmonton area.
- Complete the front-end engineering design of the HCL System such that is ready for commercial, contract manufacturing.

BENEFITS TO ALBERTA

- Immediate benefits resulting from the TIER Economic Recovery project are increased employment of 2 to 3 FTE by HCL.
- As the technology advances towards commercialization, HCL will need to grow with additional HQSP staff. Positions in leadership, engineering, operations, business, marketing, and administration will all be required, and all based in Alberta.
- The commercialization of the HCL technology will increase Alberta's competitiveness and export potential. Alberta is and can continue to be a leader in low emissions fuel production. With disruptive technologies like HCL, Alberta companies can continue to reduce their emissions.
- Alberta's reputation as a clean technology provider will be reinforced as this technology gets adopted globally.

2 Patents Pending

3 Project Jobs

25 Future Jobs

1 New Products/Services

~38,000 $ktCO_2e$ Total Emissions Reductions to 2030

CURRENT STATUS

SEP 2021

The project was kicked off in January 2021, with final design of the beta prototype is complete and fabricated by May. has been conducting its first of several beta prototype field pilot tests since June 2021.