ALBERTA INNOVATES

CLEAN RESOURCES

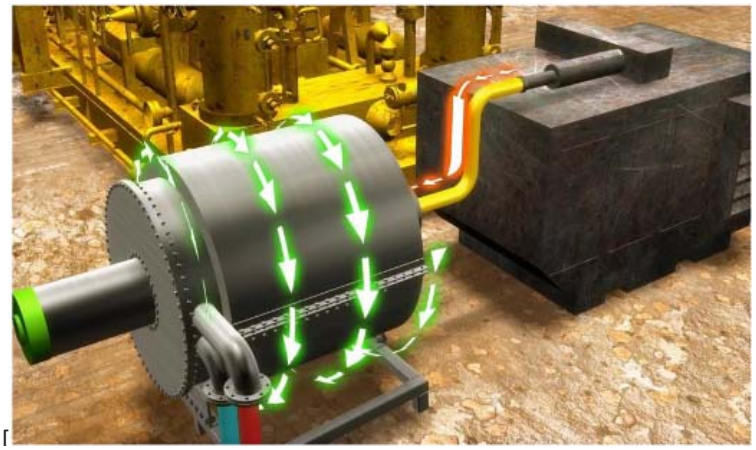
ADVANCED HYDROCARBONS

CLEANER HYDROCARBON PRODUCTION- RECOVERY TECHNOLOGIES

FUNDING DETAILS

Waste Heat Recovery with Compressor Exhaust Demonstration

ZERO Emissions Energy Technology (ZEET Inc.) is developing a proprietary heat transfer process for recovering waste (exhaust) heat from industrial compressor engines and effectively applying said heat to other processes within the clients' operations. For this project, ZEET will be capturing the exhaust heat from a Caterpillar Compressor engine and transferring the heat to thermal oil, whereby reducing energy consumption and Greenhouse Gas Emissions. Currently within Alberta, compressor engines are emitting enough heat energy to heat over 500,000 homes on an annual basis and existing heat recovery technologies are not effective – ZEET intends to change that.



RECIPIENT:
ZEET Inc

PARTNERS:
Oil & Gas Producer, Natural Gas Innovation Fund

TOTAL BUDGET:
$395,000

AI FUNDING:
$197,500

PROJECT DATES:
DEC 2021 – DEC 2022

PROJECT TRL:
Start: 7
End: 8

APPLICATION

ZEET Inc. has segmented its target markets into 3 categories: natural gas; other energy; and agricultural heat recovery. The primary goal is to achieve commercialization within the natural gas (compressor engine) sector in Western Canada, as this market currently presents the clearest need for improved heat recovery technology that reduces CO2 emissions.

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PROJECT GOALS

The key goals of the project are to validate the effectiveness of ZEET's technology at recovering exhaust heat by:

- Demonstrating heat recovery and transfer of at least 80% efficiency;
- Verifying emissions reductions potential of the technology; and
- Confirming that ZEET Exchanger operation has no negative impact on compressor engine operation.

BENEFITS TO ALBERTA

The successful implementation of this technology in Alberta could result in:

- Reductions of Greenhouse Gas (GHG) emissions by over 2,000 t per unit per year (forecasted to be a reduction of over 430,000 t by 2025 based on 200 units in operation) – greatly assisting the energy sector in its mandate to lower GHG emissions;
- Efficiency improvements – with annual energy savings equivalent to heating over 3,000 homes in 2025, which will allow our clients to invest in additional efficiency and GHG emissions reduction projects;
- Employing hundreds of Albertans, including engineers and skilled trades, both within ZEET and through their subcontracted partners; and
- The development of additional heat recovery applications in other industries, such as Agriculture.

1 Patent

5-9 Project Jobs

100+ Future Jobs

1 New Product/Service

2 kT/yr Project GHGs Reduced

8,000 kT/yr Future GHGs Reduced

CURRENT STATUS

MAY 2022

All project funding is in place, engineering has been initiated, and site-specific details are being confirmed. It is anticipated that ZEET's commercial demonstration unit will be installed by Q4 2022.