

# ALBERTA INNOVATES CLEAN RESOURCES

## ADVANCED HYDROCARBONS

### PARTIAL UPGRADING

## FUNDING DETAILS

## Heavy Oil Viscosity Reduction Project

The Heavy Oil Viscosity Reduction Project is based on a patented, proprietary catalytic process developed by NextStream Heavy Oil LLC to reduce the viscosity of heavy, bituminous oil. Undiluted bitumen is catalytically treated at mild process conditions with the resultant product requiring up to 50% less diluent to meet pipeline viscosity specifications.

The pilot equipment is installed at MEG Energy's Christina Lake Regional Project plant facilities in northeastern Alberta. The purpose of the pilot is to validate the promising results that have been achieved with the bench scale process in a laboratory setting and provide the necessary data to allow the process to be scaled to a commercial facility.



**RECIPIENT:**  
MEG Energy



**PARTNERS:**  
NextStream



**TOTAL BUDGET:**  
\$4,810,000



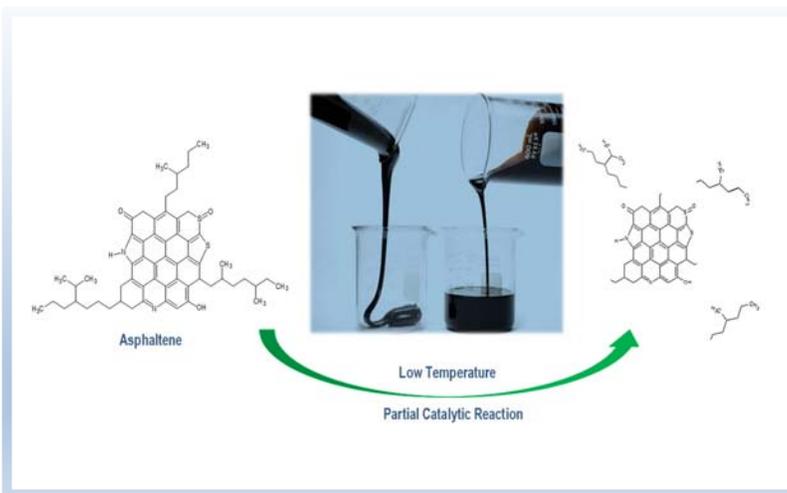
**AI FUNDING:**  
\$1,245,000



**PROJECT DATES:**  
FEB 2021 –  
DEC 2021



**PROJECT TRL:**  
Start: 3  
End: 7



## APPLICATION

Heavy oil producers that use diluent blending as their primary method of meeting pipeline transportation specifications can benefit from this technology. SAGD and CSS heavy oil producers may be particularly advantaged due to the integration opportunities available with these processes.



# CLEAN RESOURCES

## ADVANCED HYDROCARBONS

### PARTIAL UPGRADING

### PROJECT GOALS

- Complete the field pilot phase of the NextStream process to validate the bench scale results and provide the data necessary to carry out an evaluation of the economic feasibility of a commercial facility.
- Execute adequate engineering to define the scope, cost, and schedule for the design, construction, and operation of a commercial scale facility, which will provide greater certainty on overall costs and economics.

### BENEFITS TO ALBERTA

- Operating costs and the GHG emission intensity associated with diluent handling and transport will be reduced for Alberta producers.
- The reduced diluted bitumen volume will debottleneck pipeline systems, enabling the development of additional oil production.
- New facilities for both the NextStream process as well as additional oil production will create employment during both the construction and operation phases.
- Additional oil production will result in increased royalties for the province of Alberta.



1 Student Trained



2 Patents



18 Project Jobs



200+ Future Jobs



1 New Product/Service



1+ Spinoff Company



Lifecycle GHG reduction will be realized in midstream and downstream

### CURRENT STATUS

#### SEP 2021

The pilot facility has been installed at MEG’s Christina Lake site and is in the initial stages of operation. The pilot is being operated and maintained by MEG Energy with direction and input from NextStream Heavy Oil. Preliminary data has been collected and is being analyzed by NextStream.