

CLEAN RESOURCES

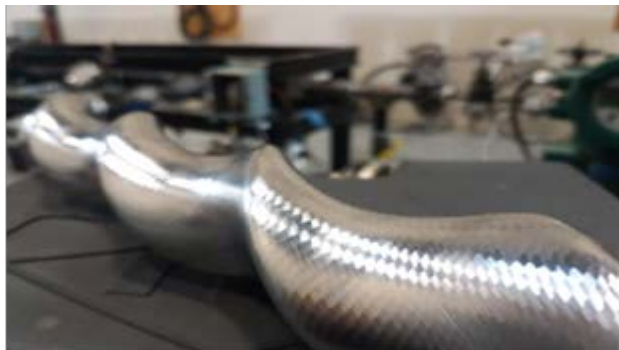
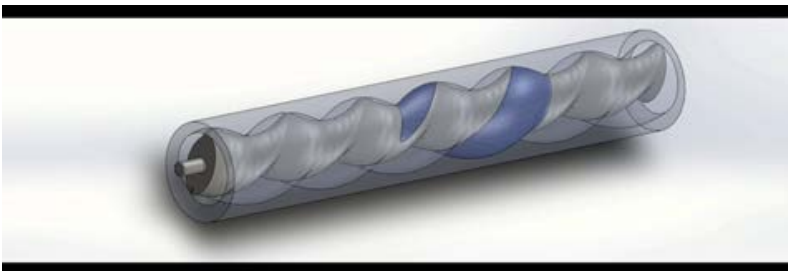
ADVANCED HYDROCARBONS

CLEANER HYDROCARBON PRODUCTION – RECOVERY TECHNOLOGIES

FUNDING DETAILS

High Efficiency Positive Displacement Pump for Electrical Submersible Pumping

Rotoliptic Technologies Inc. has developed a high-efficiency positive displacement pump technology. Consisting of only two parts, the unique pump architecture of this revolutionary technology means simple deployment, lower operating costs and applicability to a wide range of pumping needs. This innovation has the potential to lower both the energy consumption and the cost of ownership by approximately 40% over incumbent centrifugal pump solutions, resulting in significant operating cost savings over the life of the well.



RECIPIENT:
**Rotoliptic
Technologies**



PARTNERS:
**SDTC, Chevron,
EOG, Husky Energy**



TOTAL BUDGET:
\$9,088,996



AI FUNDING:
\$1,000,000



PROJECT DATES:
**MAR 2019 –
OCT 2021**



PROJECT TRL:
**Start: 5
End: 7**

APPLICATION

Rotoliptic is targeting the introduction of higher efficiency pumps into oil and gas electric submersible pumping (ESP) applications with the high efficiency, lower capital costs, and simplicity of deployment typically delivered by surface driven progressive cavity pumps (PCPs). Steam assisted gravity drainage (SAGD) applications and unconventional/enhanced oil recovery (EOR) applications are two of Rotoliptic's initial target markets.



ALBERTA INNOVATES

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PROJECT GOALS

The key goals of this project are to

- Verify RTI’s pump performance and durability through a combination of lab and field testing
- Successfully deploy the novel two-piece Rotoliptic pump in two key market segments - SAGD and US EOR applications
- Demonstrate increased operational efficiency over incumbent ESP and other pumping options in the oil and gas sector, resulting in lifecycle cost saving for well operators

BENEFITS TO ALBERTA

The successful implementation of this technology, or use of the knowledge generated could result in

- Improvements in asset utilization and lifecycle cost savings for well operators
- Reductions in greenhouse gas emissions attributed to oil production in Alberta
- Partnerships between Rotoliptic and local businesses for the manufacture and deployment of the Rotoliptic technology



2 New Products



3-7 Patents



7 Project Jobs



56 Future Jobs



650 kT/yr Future GHGs Reduced

CURRENT STATUS

AUGUST 2020

In-house prototype testing of the 65 series pump has demonstrated target volumetric efficiencies and acceptable erosion factors. In late July and early August the pump was deployed in C-FER’s test well to demonstrate landing and unsetting protocols and develop the family of pump curves for expected live wellbore operating conditions. Data analysis from this test is underway. The next step will be field testing of this pump design in a live well within a partner wellbore.