

## Evaluation Framework for Water Reuse Technologies and Practices

Water reuse within industry is an important challenge to address. While a water reuse policy has recently been released for Alberta, a clear framework still needs to be developed for how water reuse technologies and practices will be evaluated, especially with regards to pilot testing. This is a critical gap to close.

This project developed a clear framework to guide technology developers through the uncertainty, complexity, and expense of progressing and de-risking a water reuse technology from concept to commercialization. The framework focused on water treatment technologies for water reuse in the oil and gas sector (excluding the oil sands subsector). However, the framework is also adaptable to other applications, such as municipal, agricultural, and municipal reuse. By working directly with oil and gas producers (i.e. technology end-users) and regulators to develop the framework, this project produced actionable and reliable guidance for technology developers.



**RECIPIENT:**  
ACWA (University  
of Calgary)



**PARTNERS:**  
CRIN,  
WaterSMART



**TOTAL BUDGET:**  
\$100,000



**AI FUNDING:**  
\$50,000



**PROJECT DATES:**  
APR 2022 –  
APR 2023



**PROJECT TRL:**  
N/A

## APPLICATION

The end-users of the knowledge generated by the project will primarily include oil and gas producers, technology developers, and regulators, and may also include supporting players in the ecosystem (e.g. accelerators). The developed guidelines will enable both technology developers and end-users to pilot test new technologies with confidence, and hence speed up the adoption of innovation.



# ALBERTA INNOVATES CLEAN RESOURCES

## ENVIRONMENTAL INNOVATION

### WATER INNOVATION

## PROJECT GOALS

The goal of this project was to develop a clear framework to guide technology developers through the uncertainty, complexity, and expense of progressing a water reuse technology from concept to commercialization. The framework is focused on water treatment technologies to enable water reuse in the oil and gas sector.

## BENEFITS TO ALBERTA

The framework developed in this project is expected to enable more rapid development and commercialization of water reuse technologies. The new technologies will in turn enable the following:

- Reduced consumption of freshwater by the oil and gas sector within Alberta
- Reduced volumes of water sent to disposal, helping to alleviate pressure on disposal capacity and eliminate the social and environmental impacts of transporting water for disposal
- Increased economic development within existing constraints of Alberta's water supply
- New job creation
- Growth of Alberta technology companies

While this project is focused on the oil and gas sector, there is potential to expand the implementation of the framework to other sectors, including agriculture, commercial, and municipal



**1 Publication**



**2 Practices  
Informed/  
Influenced**



**10-35 Future Jobs**

## CURRENT STATUS

**JUN 2023**

The project is complete. The Guidance Framework for Pilot Testing of Industrial Water Reuse Technologies is available online.