

Recovering Coal Bed Methane Produced Waters for Agricultural and Irrigation Uses

Ionic Solutions' C-EDR water desalination technology can produce more fresh water, with less concentrate, for less power than any desalination technology in the world. The technology has created a step change improvement in conventional electro dialysis technology, allowing it to beat the industry standard reverse osmosis technology in every performance category. This project aims to apply Ionic's C-EDR technology to purify Ember Resources coal bed methane (CBM) produced water to provide highly valuable agricultural water to Sunterra's massive greenhouse in ACME, AB, while reducing Ember's operational environmental footprint and costs of operation.



RECIPIENT:

Ionic Solutions Ltd.



PARTNERS:

**Ember Resources,
 Sunterra**



TOTAL BUDGET:

\$1,020,216



AI FUNDING:

\$500,108



PROJECT DATES:

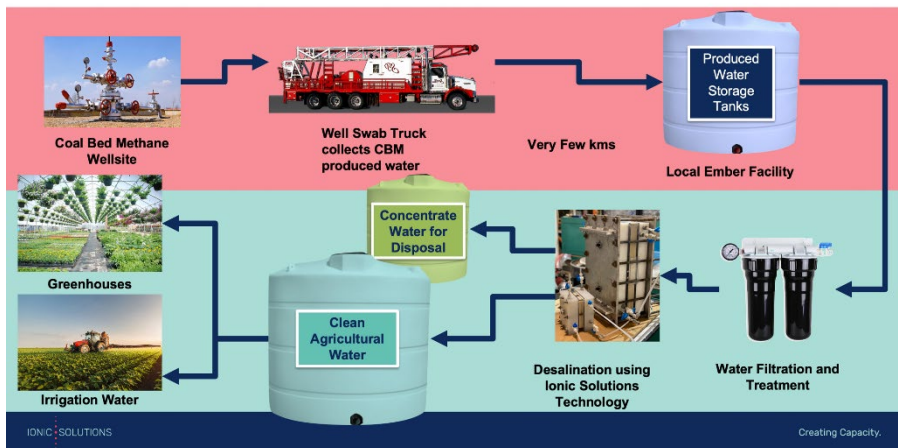
**JUN 2023 –
 AUG 2025**



PROJECT TRL:

**Start: 7
 End: 9**

Coal Bed Methane Produced Water Desalination Process



APPLICATION

It is Ionic Solutions goal to disrupt the global desalination industry currently dominated by reverse osmosis. The technology is broadly applicable for desalination and is being piloted for use in the oil and gas, steam generation, lithium extraction and municipal sectors.



ALBERTA INNOVATES CLEAN RESOURCES

ENVIRONMENTAL INNOVATION

WATER INNOVATION

PROJECT GOALS

Overall project objectives:

- Create a water re-use strategy by eliminating/minimizing disposal of produced water waste
- Create a valuable water resource for surrounding agricultural partners
- Improve operational, environmental and cost footprint by significant reduction of trucking kms for produced coal bed methane water

BENEFITS TO ALBERTA

The project has the potential to result in the following benefits for Alberta:

- Job creation and HQP development
- Growth of an Alberta based company with export potential
- Reduction of oilfield produced wastewater for disposal (34,000 m³/year)
- Water recycled for agricultural use (88m³/day, 32,000 m³/year)
- Reduction of swab water truck kms travelled by 474,000km/year leading to removal of 2,700 metric tons of CO₂ emissions per year
- Reduced operational costs for a key natural gas supplier



**2,700 t/yr Future
GHGs Reduced**

CURRENT STATUS

AUG 2023

The project recently kicked-off. The first milestone will be completed in January 2024.