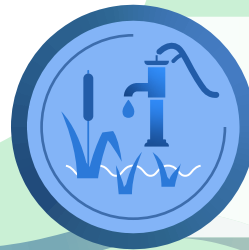


THEME 3

Water Use Conservation, Efficiency, and Productivity

Water is a vital element of our economy and our communities. While Alberta is considered a water rich province, only so much water can be sustainably pulled from the system. Improving the conservation, efficiency and productivity (CEP) of water use enables the growth of our economy and communities while still preserving critical environmental flows. Significant improvements in CEP have been made in the last decade, yet more progress is needed to meet the water needs of Albertans. In addition to CEP strategies and technologies, tools are needed to inform decision making and development of business cases to enable implementation.

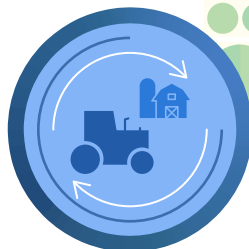
Alberta Innovates supports projects that enable more effective and sustainable use of critical water resources.



Understand impacts of conservation, efficiency and productivity efforts on ecosystems and watershed supplies.



Develop integrated approaches to conservation, efficiency and productivity.



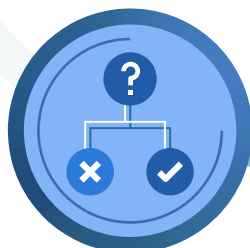
Develop strategies and technologies to improve water management in the agricultural sector.



Develop full cost accounting tools supporting water management.



Develop strategies and technologies to improve industrial water use efficiency.



Develop risk-based decision tools supporting water management.



Develop strategies and technologies for municipal wastewater and stormwater reuse.

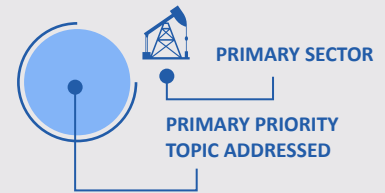
THEME 3

Projects by Watershed

Projects supported by Alberta Innovates are improving conservation, efficiency and productivity of water use in Alberta's major river basins.


-  OIL SANDS
-  MUNICIPAL
-  FORESTRY
-  ENVIRONMENT
-  AGRICULTURE


[PRIMARY WATERSHED]





ATHABASCA RIVER BASIN





 **SAIT**
NSERC Industrial Research Chair for Colleges in Oil Sands In Situ Steam Generation


 **Suez-GE Water Technologies**
Development of de-oiling and pre-concentration solutions for SAGD produced water

 **Titanium Corporation**
Validation of solvent extraction technology to recover bitumen from mature fine tailings

 **University of Calgary**
To improve SAGD produced water treatment through understanding of warm lime softening process

 **Agar**
Online water analysis in thermally enhanced heavy oil recovery and cooling tower applications


 **International Petroleum Corp**
Zero lime softening SAGD water treatment commercial demonstration

 **University of Calgary**
Oil sands produced water treatment by electrocoagulation

 **Suncor**
Water Technology Development Centre (WTDC)


PROVINCE WIDE



 **SewerVue**
Transitioning from prototype to production: The AC pipe scanner


NORTH SASKATCHEWAN RIVER BASIN



 **Swirtex**
Ponoka Lagoon Utilization Project


SOUTH SASKATCHEWAN RIVER BASIN




 **University of Alberta**
Evaluating microbial risks associated with stormwater management and reuse in Alberta


 **Triovest**
Saddle Ridge Stormwater Kidney™ Retrofit



 **Saltworks**
EOR produced water recycling


 **Forward**
Forward Water Technologies field pilot unit —design, build, trial





 **University of Alberta**
Seasonal operational model for water management within irrigation districts

 **WaterSMART**
Alberta Agricultural Water Futures Project

 **InteliRain**
A systems engineering approach for precision irrigation

 **WaterSMART**
Agriculture's Water Future: advancing the uptake of water stewardship in agri-food supply chains

 **Saltworks**
Ultra high recovery cooling tower blowdown desalination

 **InteliRain**
A systems engineering approach for precision irrigation—Phase 2

