



ALBERTA WATER USE

How Does Your Company Measure Up?

THE IDEA IN BRIEF

The AER has released a Water Use Performance Report (WUPR) that is intended to improve the transparency and reporting of actual water use for the upstream oil and gas industry.

It is expected that company specific WUPRs will be released in 2018.

HOW THIS AFFECTS YOU

We have analyzed over 50 companies and identified the highest use and intensity across the industry. High intensity water users have higher operating expenditures, face greater public scrutiny, and spend more resources navigating regulatory access to water.

Investment groups are increasingly looking for sophisticated cost management and growth in value as much as production. Having a strategic water management approach in place and reduced water use intensity has quickly become an analogue for high performance and lower cost of capital. How you stack up relative to competition may influence your potential investors.

Our analysis further highlights that many operators are challenged with compliance for water use reporting. We anticipate that large volume and high intensity water users will face increased scrutiny by shareholders, stakeholders and regulators.

Let us tell you how you measure up...

Who We Are

The InSolutions Advisory Services team specializes in corporate strategy development focused on water, waste, and energy management. We work closely with clients to anticipate and identify significant operational and environmental risks, assess opportunities to mitigate these risks, and develop effective strategies to improve overall profitability.

Emerging Issue

Stakeholders are asking questions about how and why water is used for upstream oil and gas development activities. To demonstrate greater oversight of the effective use of our water resources, the AER has taken a new step to communicating industry stewardship on this aspect through a Water Use Performance Report (WUPR).

Information on water allocation and water use intensity trends (m^3 of water per barrel of oil equivalent for the initial 12 months of well production (BOE_{IP12})) are now being reported by sector for each of the four dominant extraction methods in Alberta:

- Oil sands mining
- Oil sands in situ
- Hydraulic fracturing
- Enhanced oil recovery

The database used for the WUPR analysis has not yet been made publicly available. However, it is understood that there are plans to make the data available for download sometime in early 2018. Accompanying this data will be a benchmarking report that includes the water use performance of specific companies operating in each sector.

The total water allocation and use for each Water Act licensee will be searchable so that companies can be easily assessed for their efficiency of water use.



What Does This Mean For Your Bottom Line?

There is a direct correlation between increased water use and increased operating expenditures. **In 2016, the average small to mid-cap operator in Alberta spent between \$2.2 and \$16.8 million on water sourcing, management and disposal.** Improving the efficiency of water management may be one of the last opportunities to significantly decrease operating costs and increase overall profitability.

For this reason, investors are looking to metrics like water use intensity to gauge performance potential during this time of relatively low commodity prices and associated rates of return. Water use reporting by the AER will disclose water intensity in a manner that allows investors and the public to review. Do you know where you stand relative to your competitors, and are you prepared to answer questions about why others might be outperforming you?

[Let us show you where you stack up.](#)

In 2016, the top 25% of producers in Alberta used an average of 330,000 m³ of fresh water, and generated an average of 57,000 m³ of produced water requiring management and disposal.

Average Industry Cost (Total Lifecycle CAPEX and OPEX)	1 st Party (\$/m ³)	3 rd Party (\$/m ³)	Total Water Management Estimate for 2016
Fresh water sourcing	5	40	\$0.9 – 13.2 M
Waste water disposal	10	65	\$0.5 – 3.6 M
Total Water Management			\$2.2 - 16.8 M

Social Responsibility and the Environment

By achieving a lower water use intensity, a company can provide confidence to the regulators and public that they take seriously the importance of environmental stewardship and prudent water management. This can positively reflect on the bottom line via reduced scrutiny (and related public relations costs), enhanced corporate image, and reduced regulatory approval timelines.

[What is your water reputation?](#)

Regulatory Compliance

The Government of Alberta recognizes their responsibility for balancing water management and economic development, and is working to revise the *Water Conservation Policy* for the upstream oil and gas industry. The release of water use data is the first step toward increased scrutiny on operations accessing water for everyday needs, and a push towards lower use of high quality non-saline water. As such, companies will need to work towards improved water use efficiency to ensure the viability of future operations.

[Do you know the opportunities? Are you prepared?](#)

Top 25% of Water Users



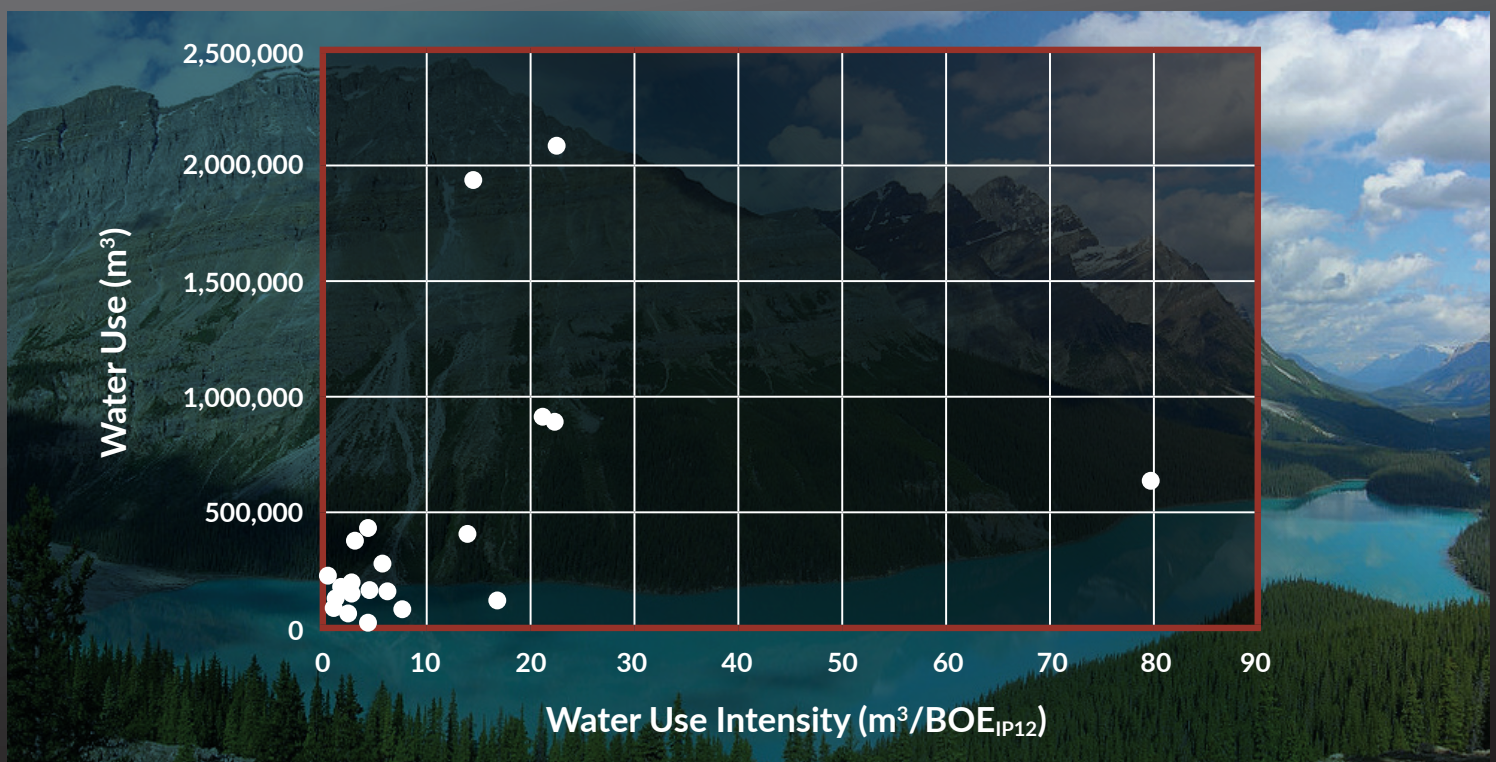
Top 25% of Upstream Water Users in Alberta

Alberta Water Use

In advance of significant public and media attention to the release of the AER water use database, InSolutions has gained access to provincial water use data and conducted a pre-emptive analysis of water use and intensity for the upstream oil and gas industry.

2016 Water Use Intensity (m^3 of water used per BOE_{IP12} produced)

Analysis of water use alone can be misleading when taken out of context from the volume of oil and gas reserves produced in a year. Water use intensity, therefore, speaks to the efficiency of an operation producing oil and gas by assessing the amount of water required to achieve that production. The graph below shows the annual water use in 2016 compared to the BOE_{IP12} . Not all operations have achieved water efficiency by introducing strategies like recycling or non-water technologies.



Where Do You Stand?

We are interested in briefing you in detail on our analysis. We welcome the opportunity to discuss the implications and how we may help your company improve its profitability through:

- Full water lifecycle risk and efficiency analyses
- Effective sourcing, management and disposal strategies
- Economic justification for reuse
- Infrastructure modelling and optimization
- Automation for data submission and compliance

For further information and to explore the opportunities and fit-for-purpose solutions, please contact:

zoe.thomas@in-solutions.ca

jon.fennell@in-solutions.ca

For details on the services we provide, please visit our website:

<http://www.in-solutions.ca>