



Climate, water availability, and the success of Western Canada's energy development

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Abstract

Despite the goals set by the politicians, hydrocarbons will continue to fuel the economy of the world. Given the vast quantities of hydrocarbons reserves Canada exists as a global provider. However, the decline in conventional reserves has forced industry to chase more difficult to access unconventional oil and gas resources to fill the gap in production as demand for these energy resources increases. Development of the vast deposits of shale gas, tight oil, and bitumen situated beneath our western provinces (i.e., British Columbia, Alberta, and Saskatchewan) cannot be realized without a sufficient and secure supply of water. Many of the companies striving to access unconventional oil and gas resources are now coming to the realization that water is the limiting factor, and that availability of sufficient quantity and quality supplies will dictate the outcome of their efforts.

Many would think that as a country with 0.5% of the world's population and 20% of the world's fresh water we should have nothing to worry about. Perhaps that is true if one only looks at things from an "average" point of view, but the reality is that climate variability (or the deviation from the average) controls the end result. Given this constraint, understanding, appreciation, and the ability to adapt to (and manage through) extremes will be key unconventional oil and gas development in Canada.

This presentation will explore some of the key factors affecting water availability and reliability in Western Canada, and identify some of the approaches and measures that can be taken to ensure future success in this important sector of Canada's economy.